



SAN ANTONIO WATER SYSTEM
Dos Rios Water Recycling Center (DRWRC) Digester Mixing and System
Enhancements, Phase II
SAWS Job No. 11-6502
Solicitation No. B-12-053-MF

ADDENDUM NO. 6

To Bidder of Record:

This addendum, applicable to the project referenced above, is an amendment to the bidding documents and as such will be a part of and included in the Contract Documents. Acknowledge receipt of this addendum by entering the addendum number in the space provided in the bid proposal.

Revisions to Contract/Technical Specifications:

1. Specification Section 01015 – Sequence of Construction
 - a. Article 1.3 C – delete the first two sentences of this article and replace with the following:

“The CONTRACTOR shall be responsible for dewatering of any structures, piping and excavations necessary for completion of construction, including dewatering for all diversions and shutdowns. CONTRACTOR shall also be responsible for maintaining dewatering of the structure and piping if necessary for completion of the work.”

2. Specification Section 01015 – Sequence of Construction
 - a. Article 2.5 G. – add the following at the end of this article:

“5. The CONTRACTOR shall be responsible for dewatering the piping to complete the valve replacement work.”

3. Specification Section 01015 – Sequence of Construction
 - a. Article 2.5 H. – add the following at the end of this article:

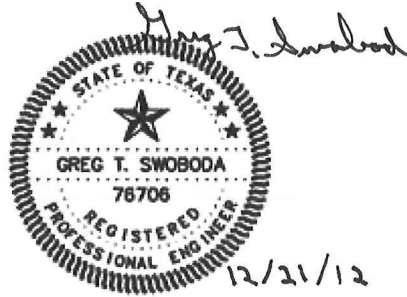
“5. The CONTRACTOR shall be responsible for dewatering the piping to complete the valve work.”

Revisions to Drawings:

1. Drawing No. 00M203
 - a. For modifications to this drawing, refer to attached Exhibit 00M203-A.
2. Drawing No. 03M101
 - a. Revise per attached drawing.
3. Drawing No. 03M102

- a. Revise per attached drawing.
4. Drawing No. 03M103
 - a. Revise per attached drawing.
5. Drawing No. 03M104
 - a. Revise per attached drawing.
6. Drawing No. 03M105
 - a. Revise per attached drawing.
7. Drawing No. 03M201
 - a. Revise per attached drawing.
8. Drawing No. 03M202
 - a. Revise per attached drawing.
9. Drawing No. 03M203
 - a. Revise per attached drawing.
10. Drawing No. 03M204
 - a. Revise per attached drawing.
11. Drawing No. 03M205
 - a. Revise per attached drawing.
12. Drawing No. 03M404
 - a. Revise per attached drawing.
13. Drawing No. 03E102
 - a. Revise per attached drawing.
14. Drawing No. 03E105
 - a. Revise per attached drawing.
15. Drawing No. 03E106
 - a. Revise per attached drawing.
16. Drawing No. 03E108
 - a. Revise per attached drawing.
17. Drawing No. 03E110
 - a. Revise per attached drawing.
18. Drawing No. 03I302
 - a. Revise per attached drawing.
19. Drawing No. 03I303
 - a. Revise per attached drawing.
20. Drawing No. 03I304
 - a. Revise per attached drawing.
21. Drawing No. 03I305
 - a. Revise per attached drawing.

This addendum consists of three (3) pages and twenty one (21) attached exhibits/drawings. The remainder of the bid documents remains unchanged.



Greg T. Swoboda

Greg T. Swoboda, P.E.
Project Manager
HDR Engineering, Inc.
Texas Firm Registration No. F-754

ACKNOWLEDGEMENT BY BIDDER

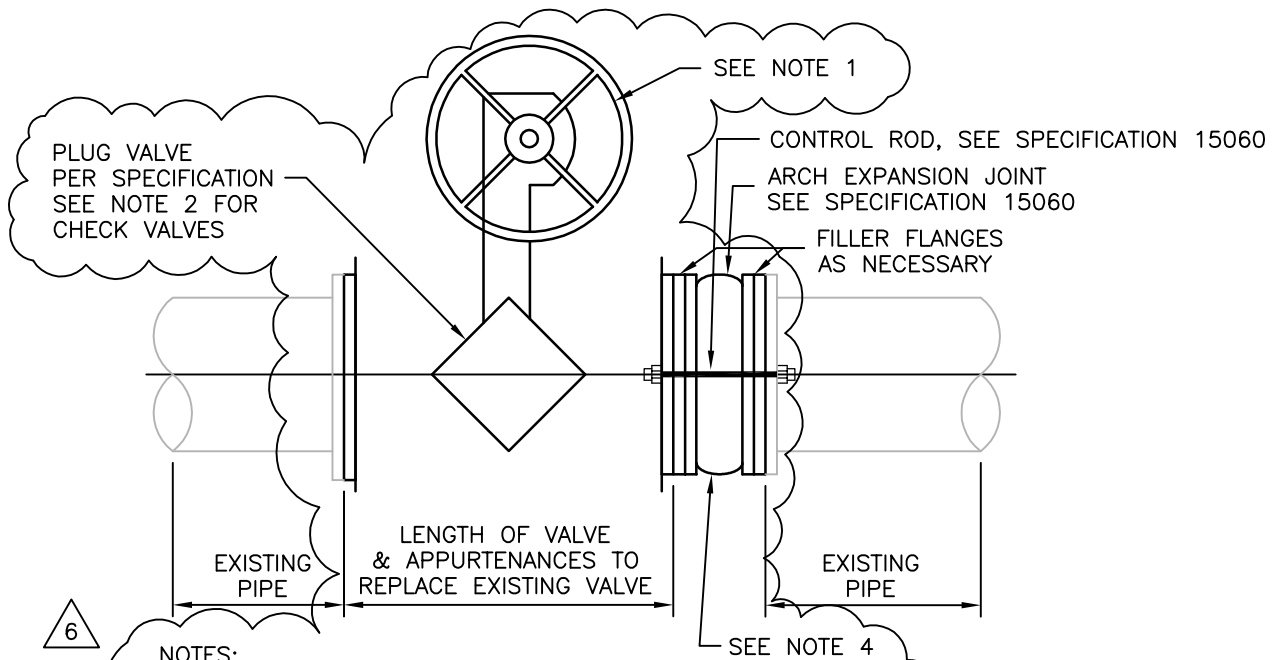
Each bidder is required to acknowledge receipt of this Addendum No. 6 on the Bid Proposal and by his/her signature affixed hereto and file same as an attachment to his/her bid.

The undersigned acknowledges receipt of this Addendum No. 6 and the bid submitted herewith is in accordance with the information and stipulation set forth.

Signature of Bidder

Date

END OF ADDENDUM



NOTES:

1. ACTUATOR FOR VALVE SHALL BE PER SPECIFICATION 15100 OR AS INDICATED ON DRAWINGS.
 - A. PROVIDE GEARED ACTUATOR FOR PLUG VALVES 4 INCHES AND LARGER.
 - B. PROVIDE HORIZONTAL HANDWHEEL ACTUATOR FOR VALVES LESS THAN 3 FT FROM FINISHED FLOOR TO VALVE CENTERLINE.
 - C. PROVIDE VERTICAL HANDWHEEL ACTUATOR WITH WORM GEAR FOR VALVES BETWEEN 3 FEET AND 5 FEET FROM FINISHED FLOOR TO VALVE CENTERLINE.
 - D. PROVIDE CHAIN ACTUATORS FOR VALVES 5 FEET OR HIGHER FROM FINISHED FLOOR TO VALVE CENTERLINE.
 1. SEE SPECIFICATION 15100 FOR ADDITIONAL INFORMATION.
 - E. PROVIDE ELECTRIC ACTUATOR FOR VALVES INDICATED ON DRAWINGS, PER SPECIFICATION 15100.

2. FOR CHECK VALVE REPLACEMENT, FOLLOW THIS DETAIL BUT INSTALL CHECK VALVE INSTEAD OF PLUG VALVE.
3. USE NEW 316 SST BOLTS, NUTS, AND WASHERS TO BOLT VALVE FLANGES TO PIPE.
4. REPLACE EXISTING ARCH EXPANSION JOINT, PER SPECIFICATION 15060 FOR ALL ARCH EXPANSION JOINTS LOCATED NEXT TO VALVES BEING REPLACED. PROVIDE MINIMUM 2 CONTROL RODS WHEN REPLACING ARCH EXPANSION JOINT. SEE SHEET 03M104 AND 03M105 FOR LOCATION AND SIZE.

VALVE REPLACEMENT DETAIL

NTS



SAN ANTONIO WATER SYSTEM



HDR Engineering, Inc.

Texas P.E. Firm
Registration No. F-754

SAWS JOB NO. 11-6502

DRWRC - DIGESTER MIXING AND SYSTEM ENHANCEMENTS - PHASE II

ADDENDUM NO. 6

DATE DECEMBER 20, 2012

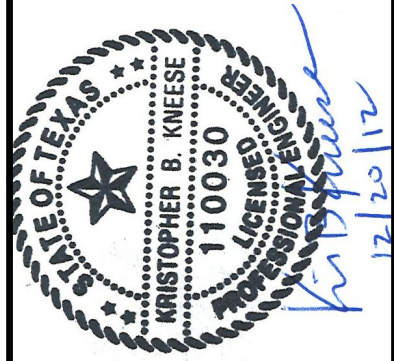
DWG. NO. 00M203

EXHIBIT NO. 00M203-A

No.	Date	Revisions



Date: OCTOBER 2012
 Designed by: K.B.K.
 Drawn by: R.R.
 Checked by: G.S.
 Scale: 1/8" = 1'-0"

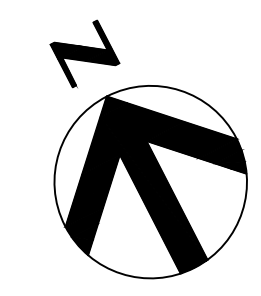


SAN ANTONIO WATER SYSTEM

SAWS Job No. 11-6502
 DRWRC - DIGESTER MIXING AND SYSTEM ENHANCEMENTS, PHASE II
 DIGESTER No.1 PLAN

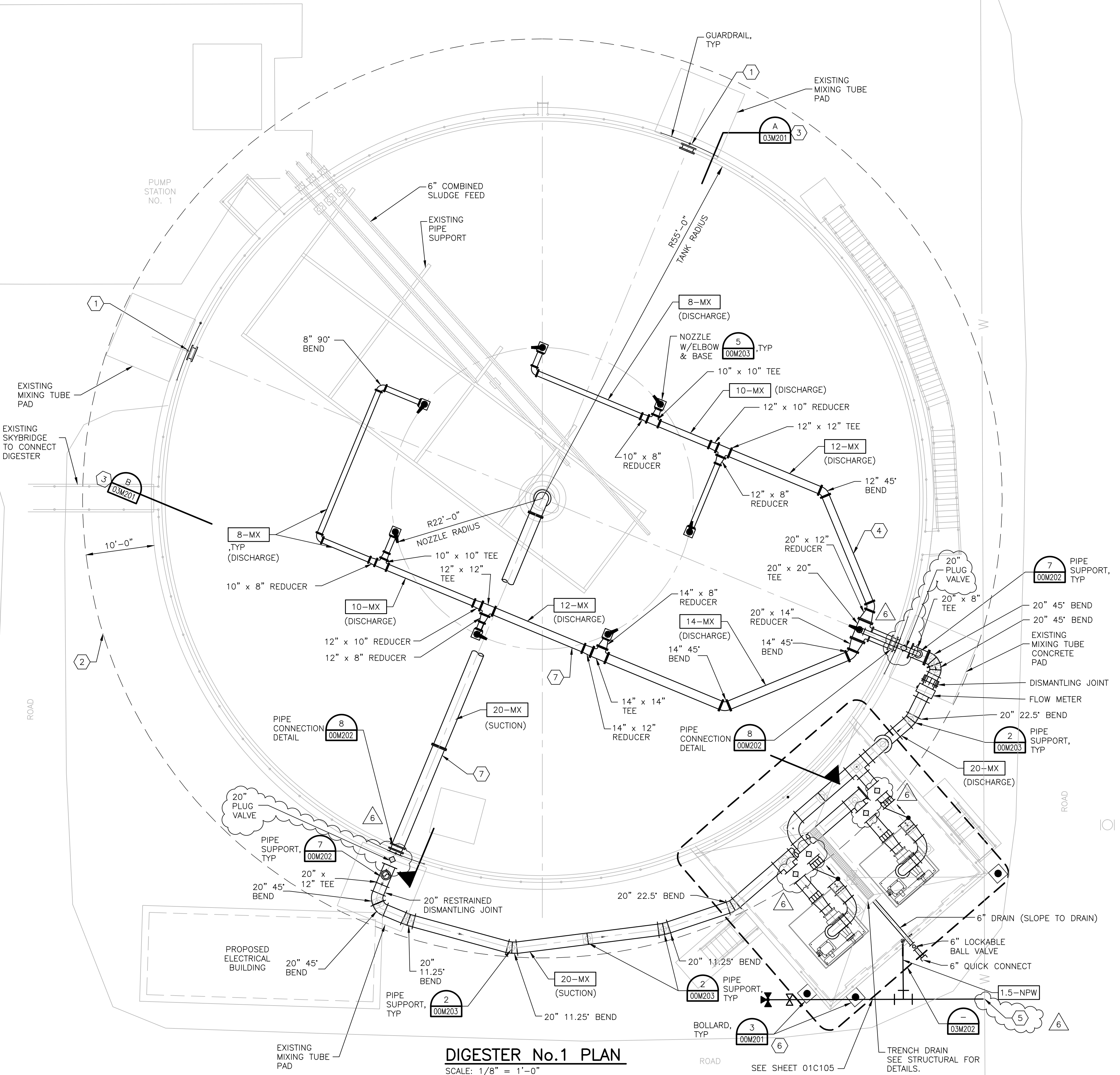
Dwg. No.

03M101



KEY NOTE

- 1 CAP EXISTING FLANGE WITH 36" DIAMETER BLIND FLANGE ON EXTERIOR OF DIGESTER. 36" DIAMETER BOLT HOLES TO CONNECT TO EXISTING FLANGE. TYPICAL OF BOTH OPENINGS.
- 2 HAZARDOUS AREAS. ALL INSTALLATION SHALL MEET NEC500.
- 3 SECTIONS ARE TYPICAL SECTIONS OF THE DIGESTERS. THESE SECTIONS ARE SHOWN FOR ILLUSTRATIVE PURPOSES.
- 4 CHANGES TO MIXING SYSTEM PIPING, AS DETERMINED BY THE MIXING SYSTEM MANUFACTURER, SHALL BE AT NO ADDITIONAL COST TO THE OWNER. EXISTING PIPE SUPPORTS INSIDE THE DIGESTER SHALL NOT BE MODIFIED.
- 5 HOT TAP EXISTING NPW AND INSTALL 1.5 INCH LINE TO HOSE BIBB.
- 6 COORDINATE LOCATION OF BOLLARD WITH OWNER'S REPRESENTATIVE AND AVOID ANY EXISTING UTILITIES.
- 7 PROVIDE PIPE SUPPORTS AS REQUIRED IN SPECIFICATION 15090.



DIGESTER No.1 PLAN
 SCALE: 1/8" = 1'-0"

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY.

No.	Date	Revisions



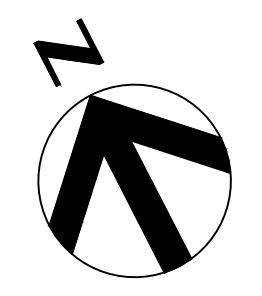
Date: OCTOBER 2012
 Designed by: K.B.K.
 Drawn by: R.R.
 Checked by: G.S.
 Scale:



SAWS Job No. 11-6502
 DRWRC - DIGESTER MIXING AND
 SYSTEM ENHANCEMENTS, PHASE II
 DIGESTER No.2 PLAN

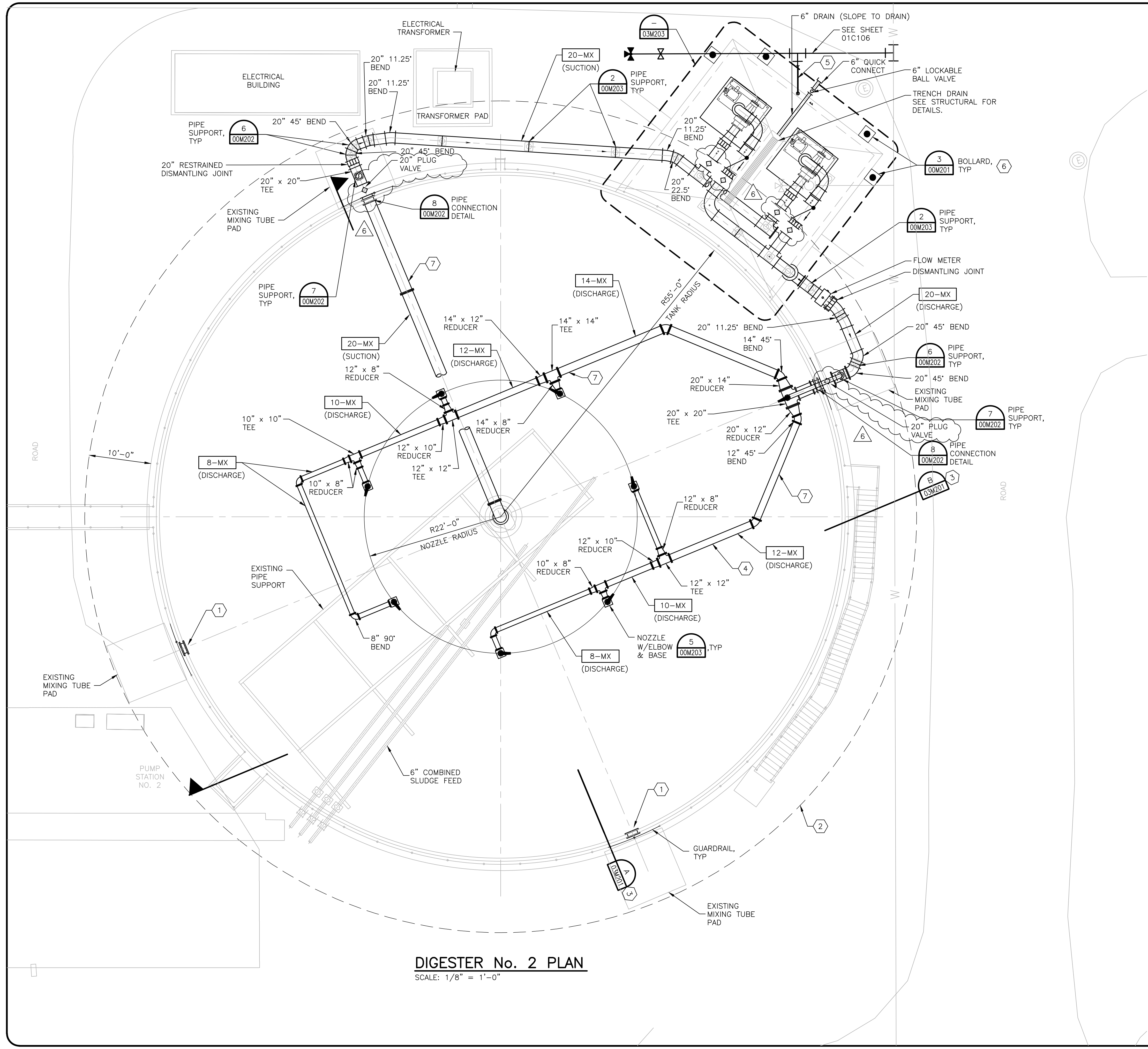
Dwg. No.

03M102

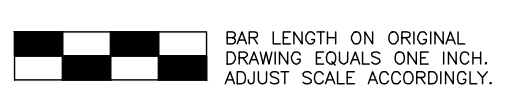


KEY NOTE

- 1 CAP EXISTING FLANGE WITH 36" DIAMETER BLIND FLANGE ON EXTERIOR OF DIGESTER. 36" DIAMETER BOLT HOLES TO CONNECT TO EXISTING FLANGE. TYPICAL OF BOTH OPENINGS.
- 2 HAZARDOUS AREAS. ALL INSTALLATION SHALL MEET NEC500.
- CLASS 1, DIV 1 - TANK INTERIOR AREAS ABOVE AND AROUND THE DIGESTER COVER. ENVELOPE 10 FT ABOVE THE HIGHEST POINT OF THE COVER AND 5 FT. FROM ANY WALL.
- CLASS 1, DIV 2 - ENVELOP 15 FT ABOVE THE DIV 1 AREA OVER THE COVER AND 5 FT. BEYOND THE DIV 1 AREA AROUND THE TANK WALL.
- 3 SECTIONS ARE TYPICAL SECTIONS OF THE DIGESTERS. THESE SECTIONS ARE SHOWN FOR ILLUSTRATIVE PURPOSES.
- 4 CHANGES TO MIXING SYSTEM PIPING, AS DETERMINED BY THE MIXING SYSTEM MANUFACTURER, SHALL BE AT NO ADDITIONAL COST TO THE OWNER. EXISTING PIPE SUPPORTS INSIDE THE DIGESTER SHALL NOT BE MODIFIED.
- 5 SEE YARD PIPING SHEET 01C106.
- 6 COORDINATE LOCATION OF BOLLARD WITH OWNERS REPRESENTATIVE AND AVOID ANY EXISTING UTILITIES.
- 7 PROVIDE PIPE SUPPORTS AS REQUIRED IN SPECIFICATION 15090.



DIGESTER No. 2 PLAN
 SCALE: 1/8" = 1'-0"

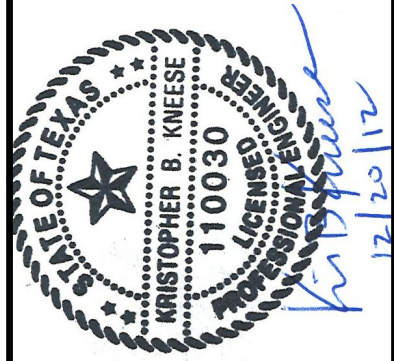


BAR LENGTH ON ORIGINAL
 DRAWING EQUALS ONE INCH.
 ADJUST SCALE ACCORDINGLY.

No.	Date	Revisions



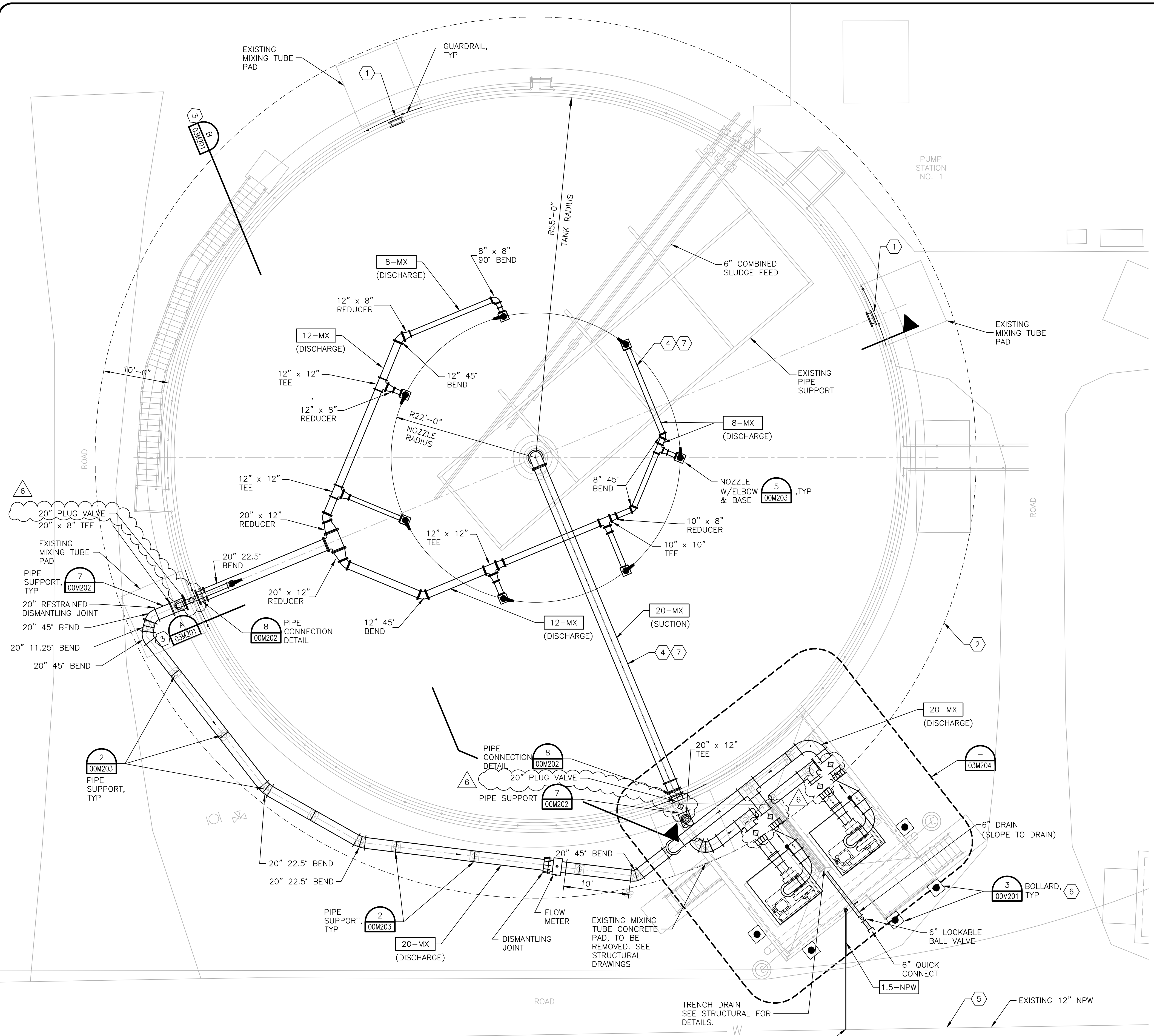
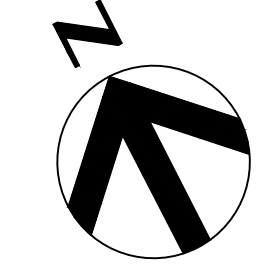
Date: OCTOBER 2012
 Designed by: K.B.K.
 Drawn by: R.R.
 Checked by: G.S.
 Scale:



SAWS Job No. 11-6502
 DRWRC - DIGESTER MIXING AND
 SYSTEM ENHANCEMENTS, PHASE II
 DIGESTER No.3 PLAN

Dwg. No.

03M103



KEY NOTE

- 1 CAP EXISTING FLANGE WITH 36" DIAMETER BLIND FLANGE ON EXTERIOR OF DIGESTER. 36" DIAMETER BOLT HOLES TO CONNECT TO EXISTING FLANGE. TYPICAL OF BOTH OPENINGS.
- 2 HAZARDOUS AREAS. ALL INSTALLATION SHALL MEET NEC500.

CLASS 1, DIV 1 - TANK INTERIOR . AREAS ABOVE AND AROUND THE DIGESTER COVER. ENVELOPE 10 FT ABOVE THE HIGHEST POINT OF THE COVER AND 5 FT. FROM ANY WALL.

CLASS 1, DIV 2 - ENVELOP 15 FT ABOVE THE DIV 1 AREA OVER THE COVER AND 5 FT. BEYOND THE DIV 1 AREA AROUND THE TANK WALL.
- 3 SECTIONS ARE TYPICAL SECTIONS OF THE DIGESTERS. THESE SECTIONS ARE SHOWN FOR ILLUSTRATIVE PURPOSES.
- 4 CHANGES TO MIXING SYSTEM PIPING, AS DETERMINED BY THE MIXING SYSTEM MANUFACTURER, SHALL BE AT NO ADDITIONAL COST TO THE OWNER. EXISTING PIPE SUPPORTS INSIDE THE DIGESTER SHALL NOT BE MODIFIED.
- 5 HOT TAP EXISTING NPW AND INSTALL 1.5 INCH LINE TO HOSE BIBB.
- 6 COORDINATE LOCATION OF BOLLARD WITH OWNERS REPRESENTATIVE AND AVOID ANY EXISTING UTILITIES.
- 7 PROVIDE PIPE SUPPORTS AS REQUIRED IN SPECIFICATION 15090.

DIGESTER No.3 PLAN
 SCALE: 1/8" = 1'-0"



BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY.



Date: OCTOBER 2012
Designed by: K.B.K.
Drawn by: R.R.
Checked by: G.S.
Scale:

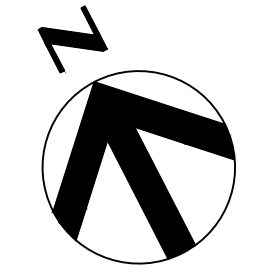


SAN ANTONIO WATER SYSTEM

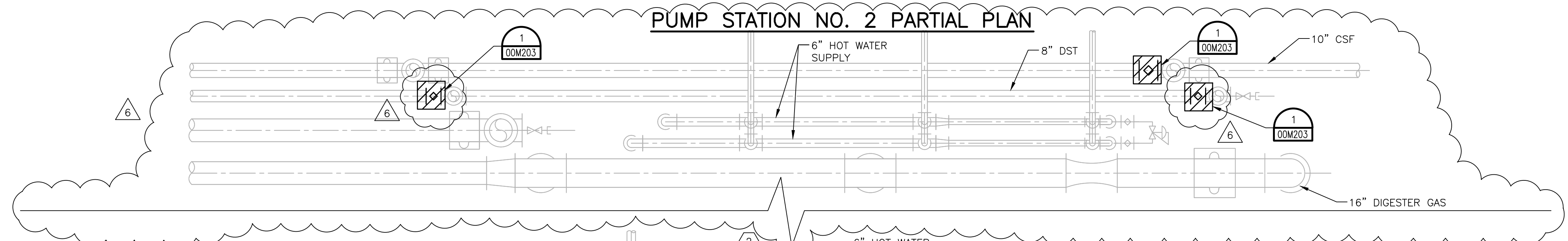
SAWS Job No. 11-6502
DRWRC - DIGESTER MIXING AND SYSTEM ENHANCEMENTS, PHASE II
PUMP STATION NO. 1
PIPING PLAN LOWER LEVEL

Dwg. No.

03M104



PUMP STATION NO. 2 PARTIAL PLAN

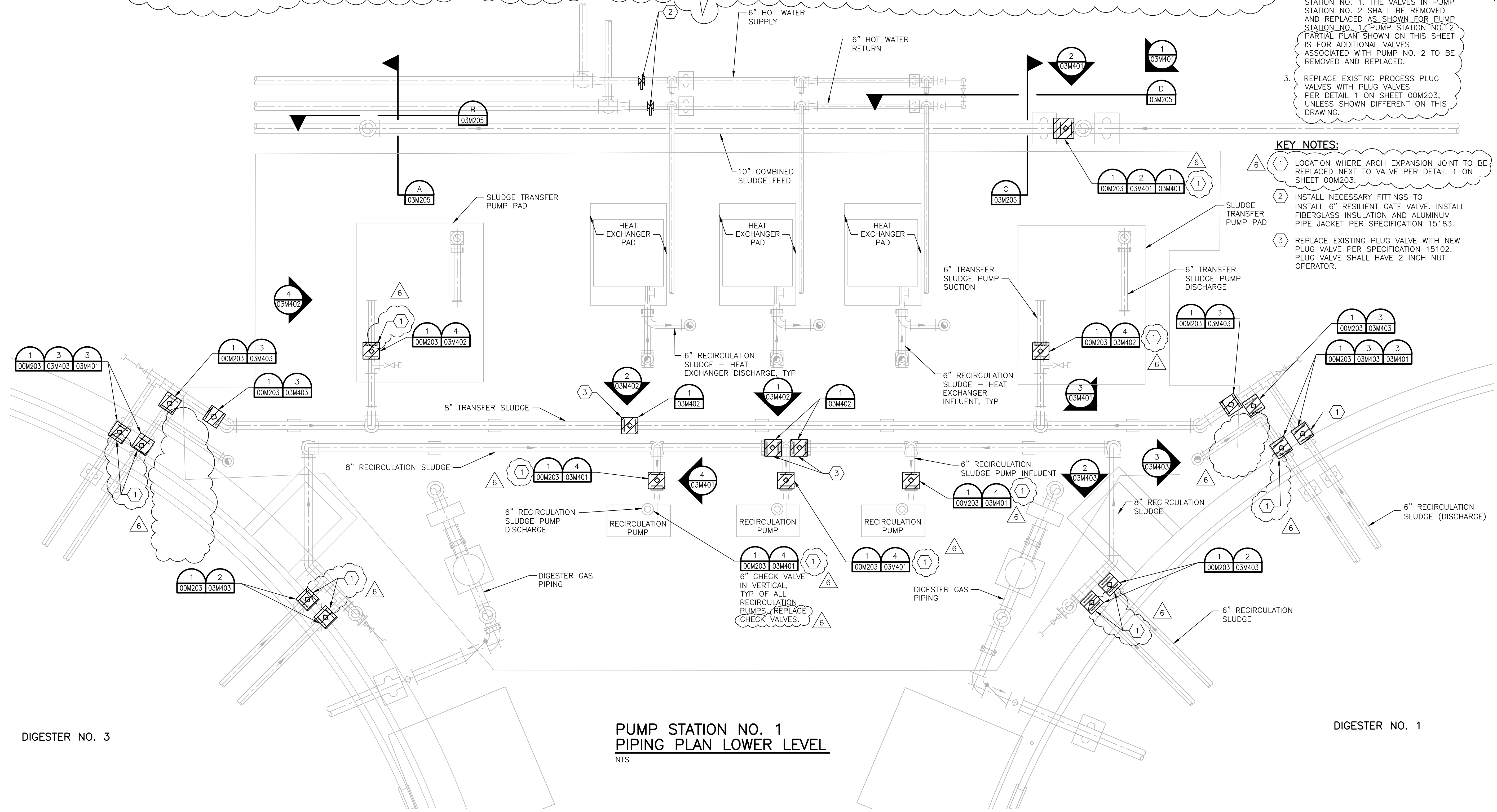


NOTES:

- DRAWINGS ARE NOT TO SCALE AND ARE SHOWN FOR ILLUSTRATIVE PURPOSES.
- PUMP STATION NO. 2 (LOCATED BETWEEN DIGESTER NOS. 2 AND 4) IS A MIRROR IMAGE OF PUMP STATION NO. 1. THE VALVES IN PUMP STATION NO. 2 SHALL BE REMOVED AND REPLACED AS SHOWN FOR PUMP STATION NO. 1. PUMP STATION NO. 2 PARTIAL PLAN SHOWN ON THIS SHEET IS FOR ADDITIONAL VALVES ASSOCIATED WITH PUMP NO. 2 TO BE REMOVED AND REPLACED.
- REPLACE EXISTING PROCESS PLUG VALVES WITH PLUG VALVES PER DETAIL 1 ON SHEET OOM203, UNLESS SHOWN DIFFERENT ON THIS DRAWING.

KEY NOTES:

- LOCATION WHERE ARCH EXPANSION JOINT TO BE REPLACED NEXT TO VALVE PER DETAIL 1 ON SHEET OOM203.
- INSTALL NECESSARY FITTINGS TO INSTALL 6" RESILIENT GATE VALVE. INSTALL FIBERGLASS INSULATION AND ALUMINUM PIPE JACKET PER SPECIFICATION 15183.
- REPLACE EXISTING PROCESS PLUG VALVE WITH NEW PLUG VALVE PER SPECIFICATION 15102. PLUG VALVE SHALL HAVE 2 INCH NUT OPERATOR.



**PUMP STATION NO. 1
PIPING PLAN LOWER LEVEL**

NTS

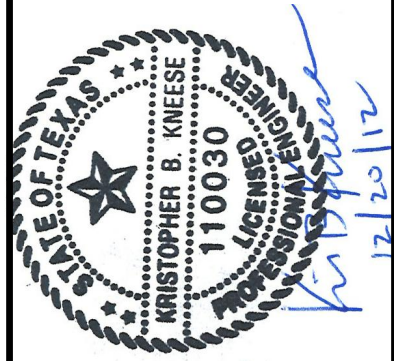
DIGESTER NO. 3

DIGESTER NO. 1





Date: OCTOBER 2012
 Designed by: K.B.K.
 Drawn by: R.R.
 Checked by: G.S.
 Scale:

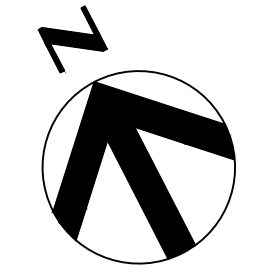


SAN ANTONIO WATER SYSTEM

SAWS Job No. 11-6502
 DRWRC - DIGESTER MIXING AND SYSTEM ENHANCEMENTS, PHASE II
 PUMP STATION NO. 1 PIPING PLAN UPPER LEVEL

Dwg. No.

03M105

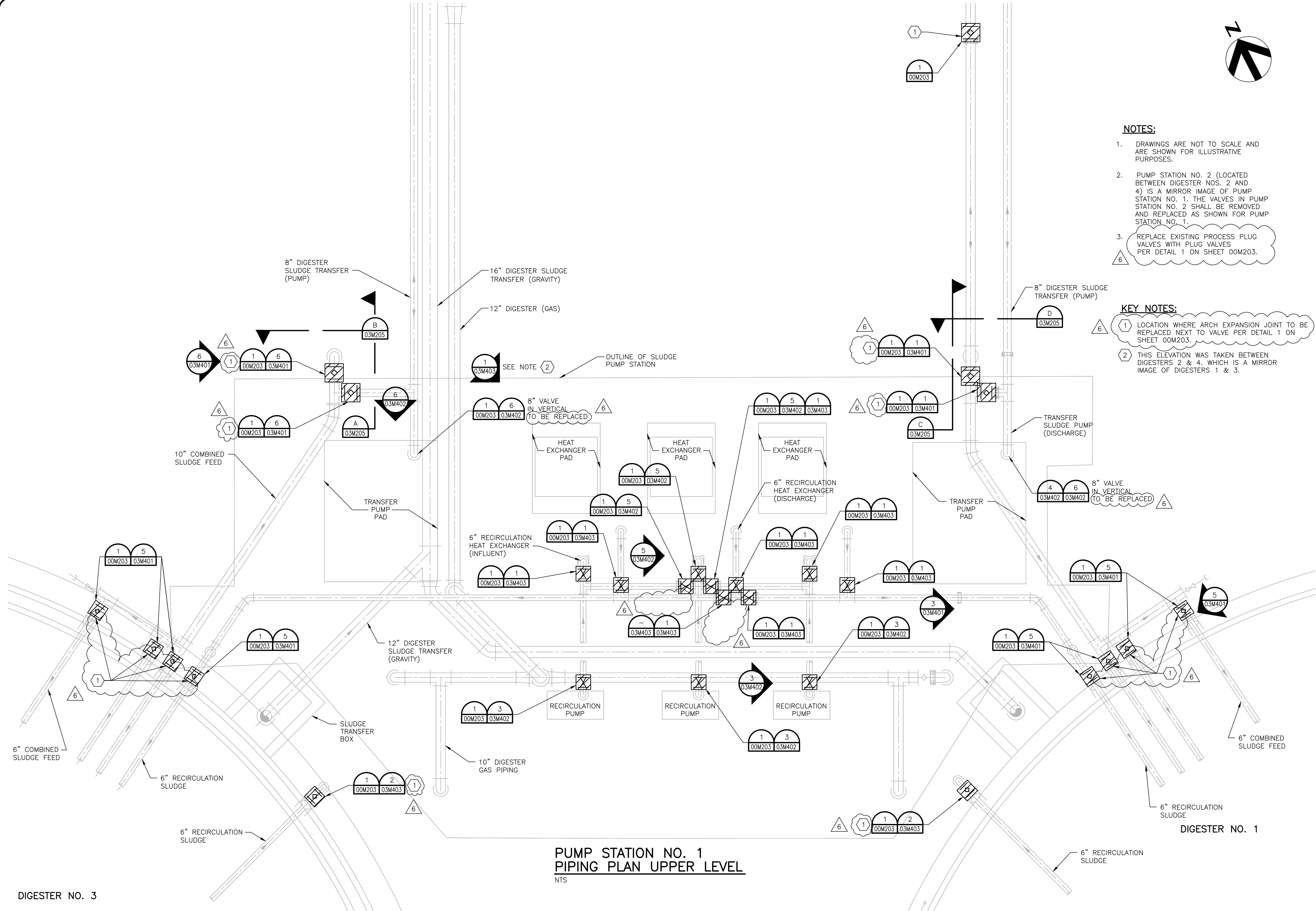


NOTES:

- DRAWINGS ARE NOT TO SCALE AND ARE SHOWN FOR ILLUSTRATIVE PURPOSES.
- PUMP STATION NO. 2 (LOCATED BETWEEN DIGESTER NOS. 2 AND 4) IS A MIRROR IMAGE OF PUMP STATION NO. 1. THE VALVES IN PUMP STATION NO. 2 SHALL BE REMOVED AND REPLACED AS SHOWN FOR PUMP STATION NO. 1.
- REPLACE EXISTING PROCESS PLUG VALVES WITH PLUG VALVES PER DETAIL 1 ON SHEET 00M203.

KEY NOTES:

- LOCATION WHERE ARCH EXPANSION JOINT TO BE REPLACED NEXT TO VALVE PER DETAIL 1 ON SHEET 00M203.
- THIS ELEVATION WAS TAKEN BETWEEN DIGESTERS 2 & 4, WHICH IS A MIRROR IMAGE OF DIGESTERS 1 & 3.



**PUMP STATION NO. 1
 PIPING PLAN UPPER LEVEL**
 NTS

DIGESTER NO. 3

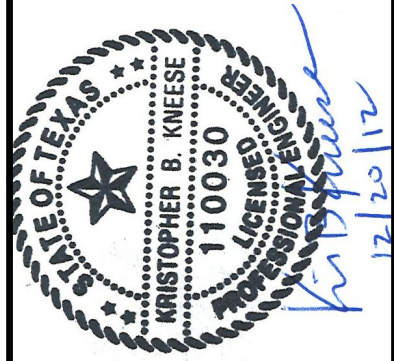
DIGESTER NO. 1

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY.

App.	Revisions	Date	No.



Date: OCTOBER 2012
 Designed by: K.B.K.
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 Checked by: G.S.
 Scale:



SAN ANTONIO
 WATER SYSTEM

SAWS Job No. 11-6502
 DRWRC - DIGESTER MIXING AND
 SYSTEM ENHANCEMENTS, PHASE II
 DIGESTER No.1 SECTIONS AND DETAILS

Dwg. No.

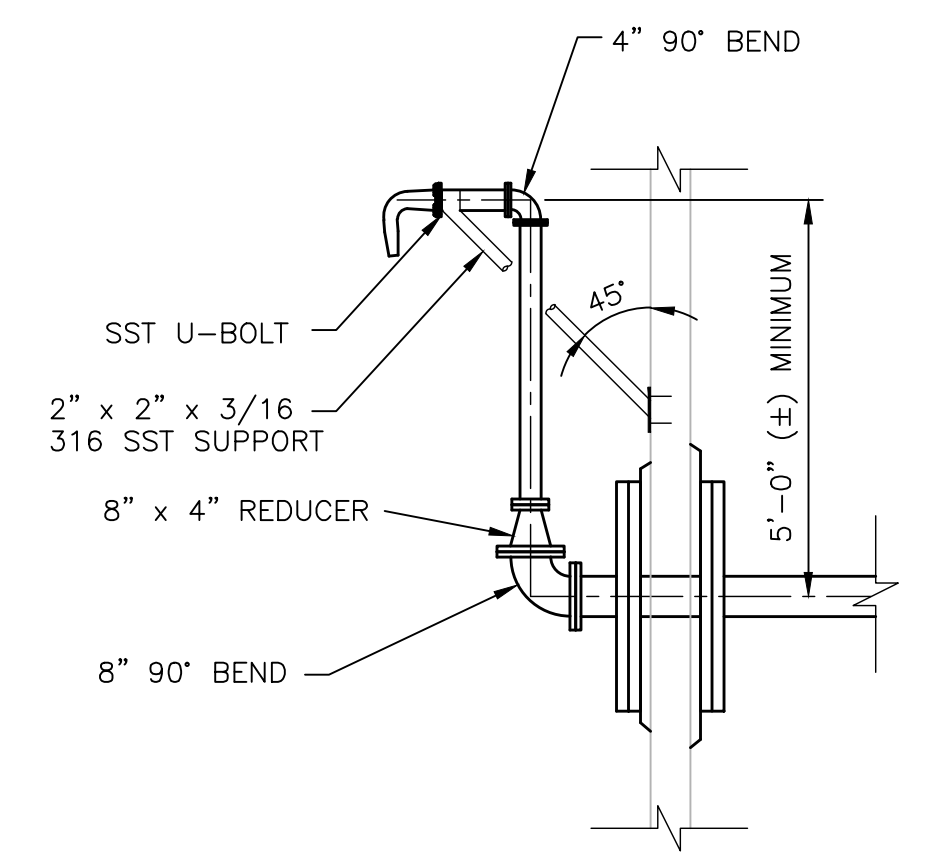
03M201

NOTES:

SECTION A AND B ON THIS PAGE ARE TYPICAL SECTIONS OF DIGESTERS 1, 2, AND 3. THESE SECTIONS ARE SHOWN FOR ILLUSTRATIVE PURPOSES. REFERENCE SHEETS 03M101, 03M102, AND 03M103 FOR PIPE LAYOUT INSIDE EACH INDIVIDUAL DIGESTER.

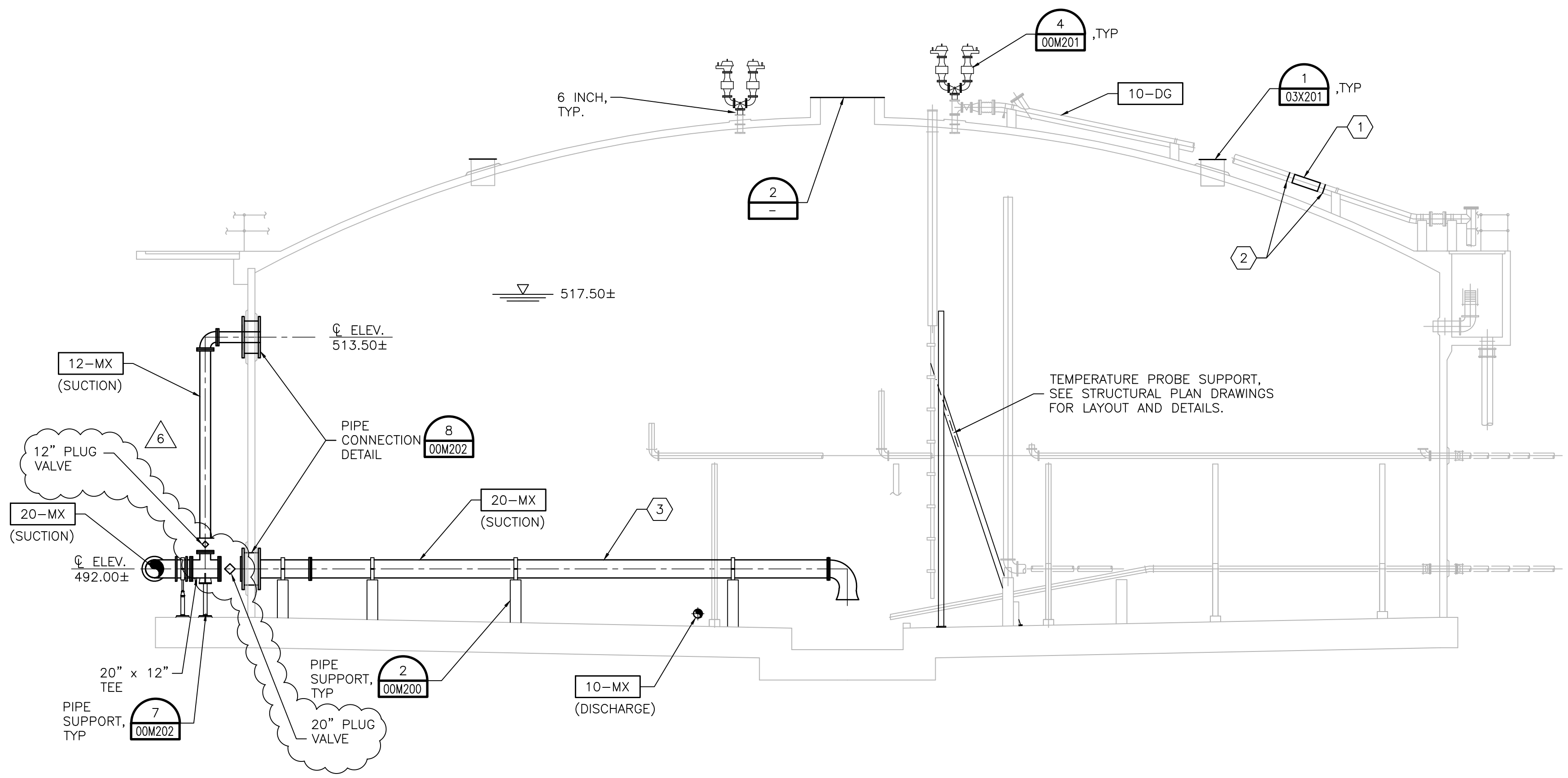
KEY NOTES:

- ① 10" ULTRA-SONIC TRANSIT TIME GAS FLOW METER.
- ② CONTRACTOR TO CUT EXISTING PIPING AND WELD NEW FLANGES PER SPECIFICATION SECTION 15066 FOR CONNECTION TO NEW FLOW METER.
- ③ PROVIDE PIPE SUPPORTS AS REQUIRED IN SPECIFICATION 15090.



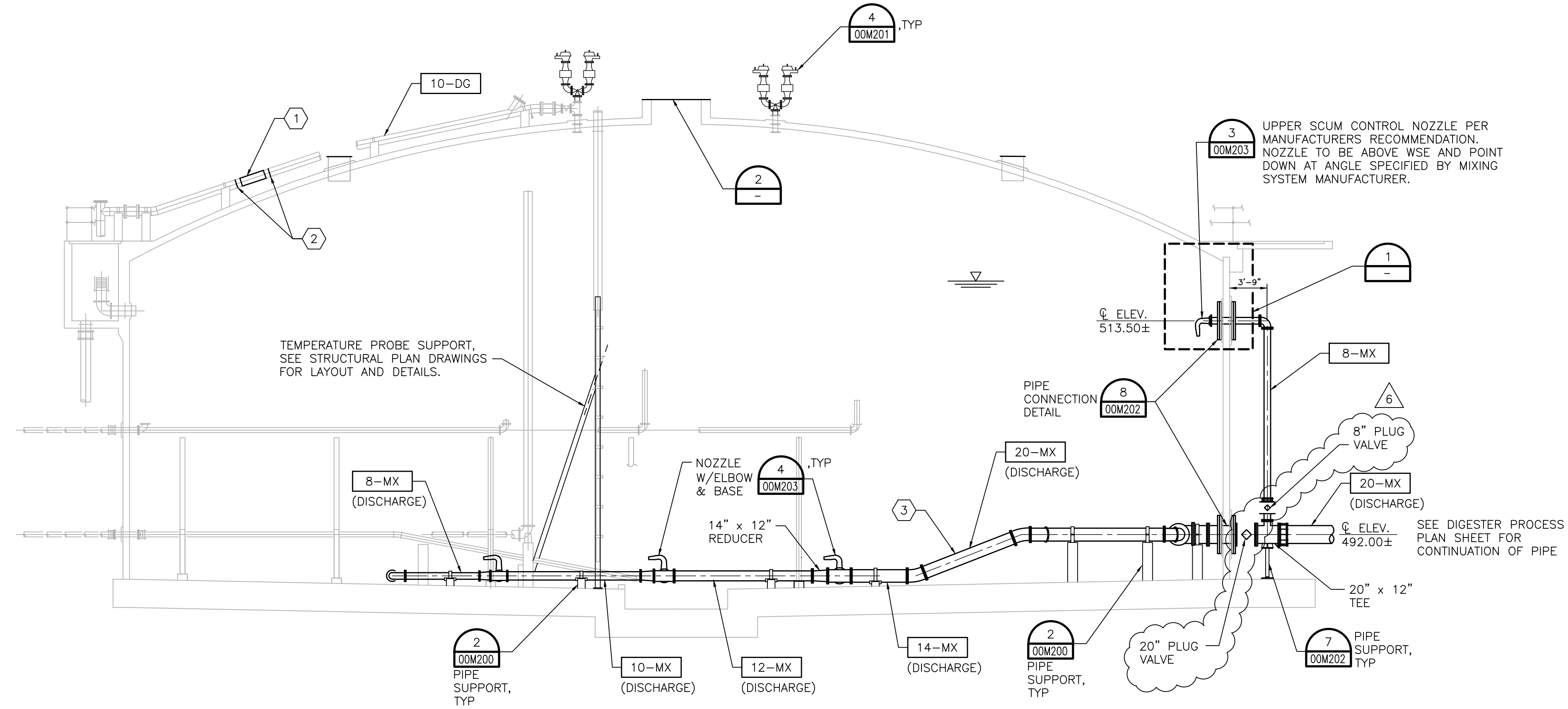
DETAIL
NTS

①
03M201



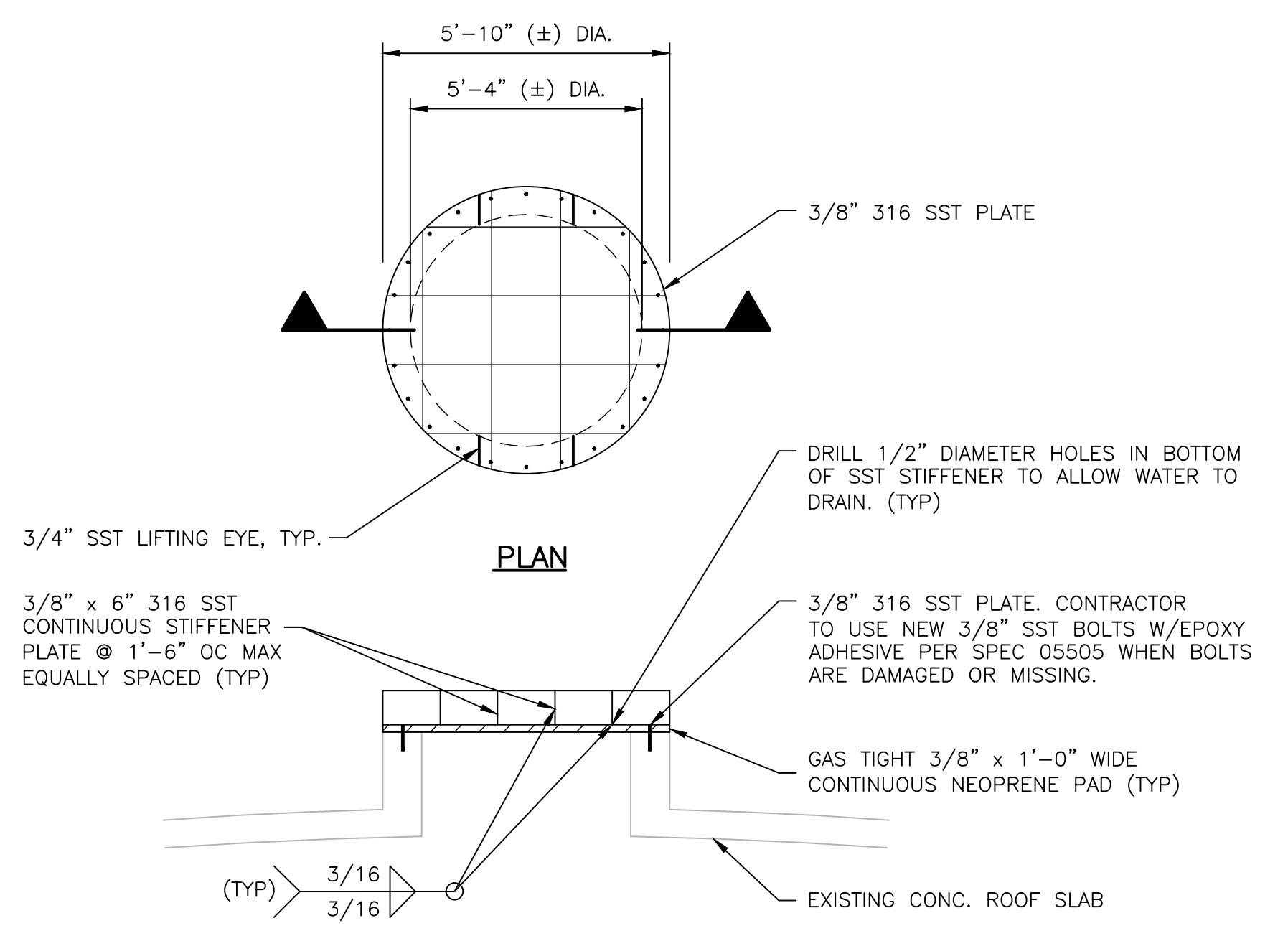
DIGESTER No.1
SCALE 3/16" = 1'-0"

③
03M101 03M102 03M103



DIGESTER No.1
SCALE 3/16" = 1'-0"

③
03M101 03M102 03M103

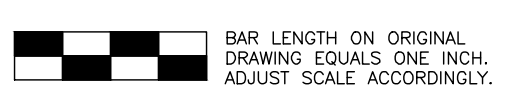


PLAN

SECTION

DETAIL
NTS

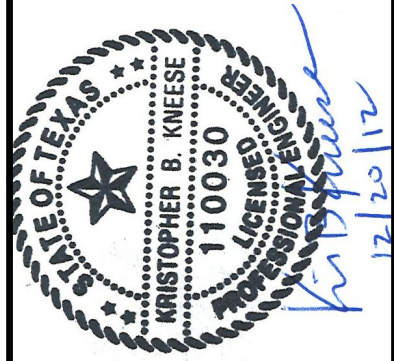
②
03M201



No.	Date	Revisions



Date: OCTOBER 2012
 Designed by: K.B.K.
 Drawn by: R.R.
 Checked by: G.S.
 Scale: 3/8" = 1'-0"

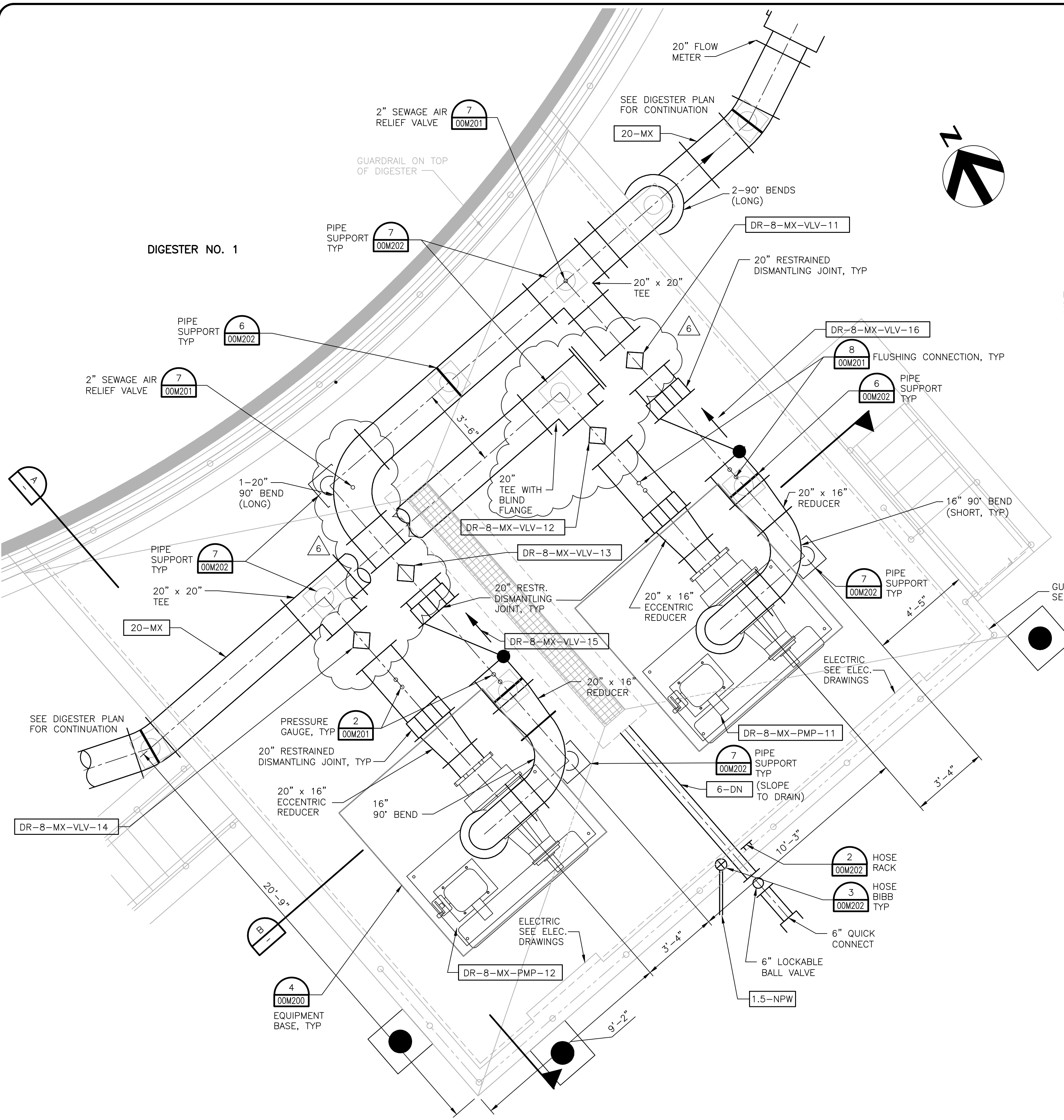


SAN ANTONIO WATER SYSTEM

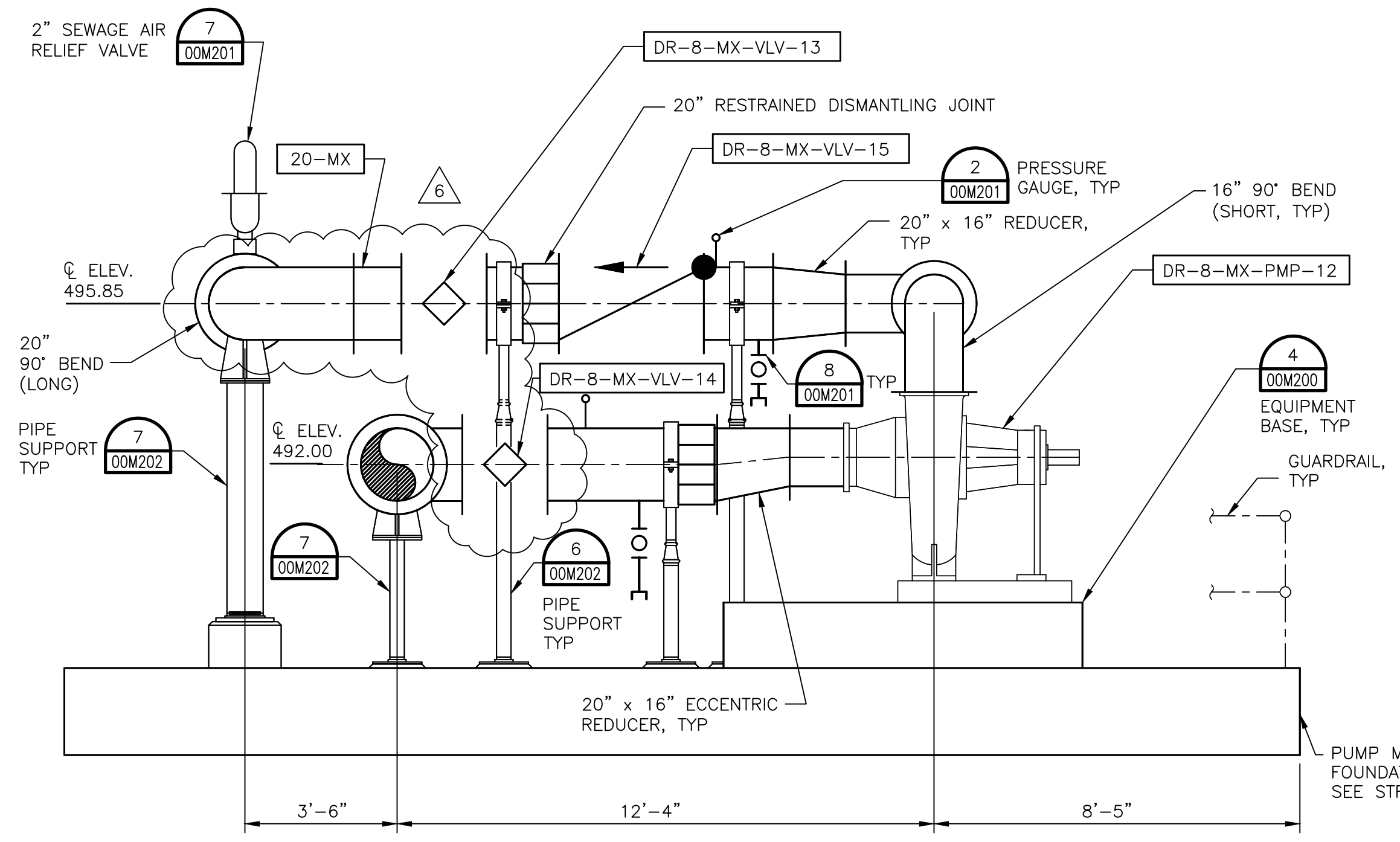
SAWS Job No. 11-6502
 DRWRC - DIGESTER MIXING AND SYSTEM ENHANCEMENTS, PHASE II
 DIGESTER NO. 1 MIXING PUMP PLAN AND SECTIONS

Dwg. No.

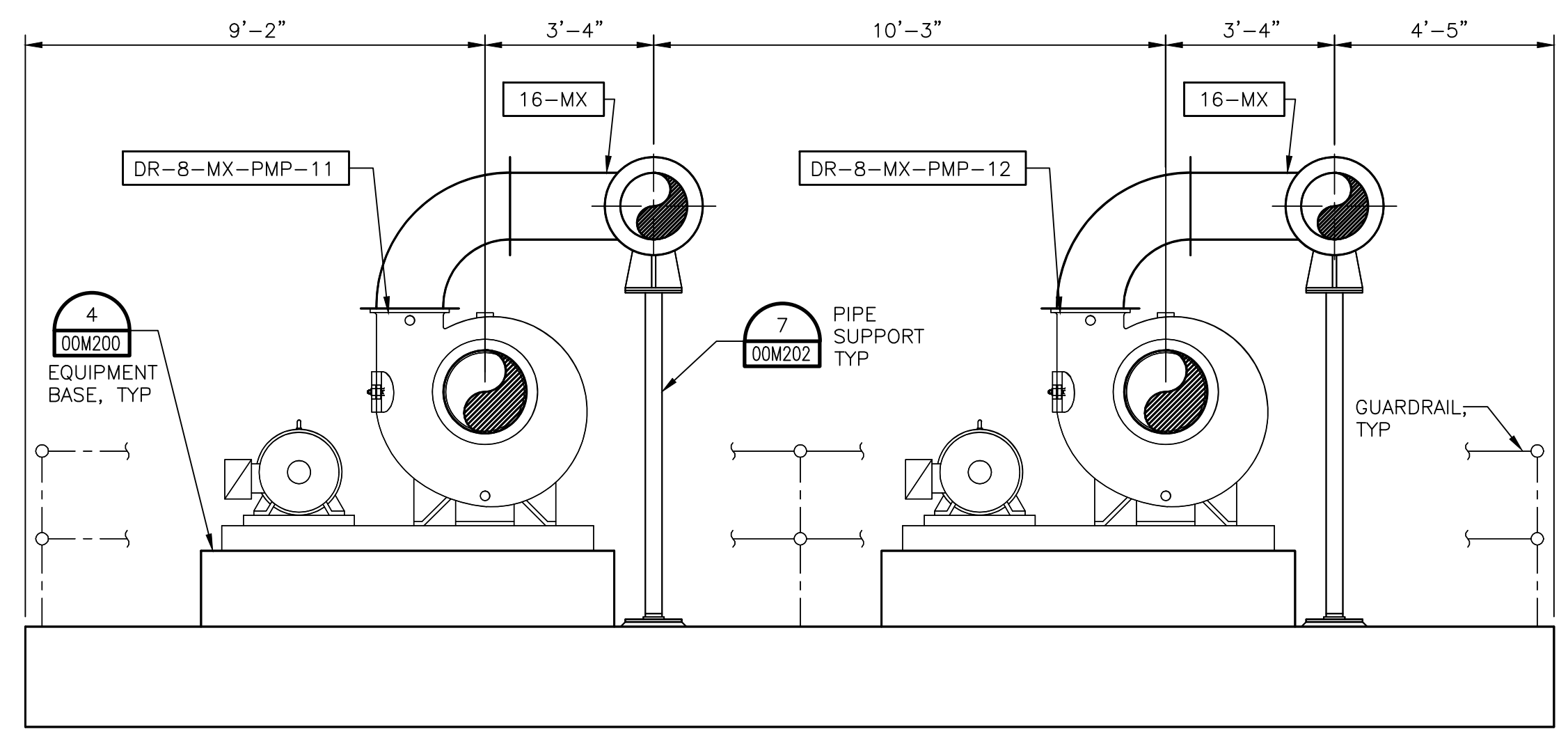
03M202



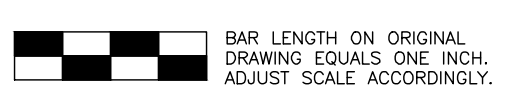
DIGESTER NO. 1 MIXING PUMP PLAN
 SCALE 3/8" = 1'-0"



SECTION A-A
 SCALE 3/8" = 1'-0"



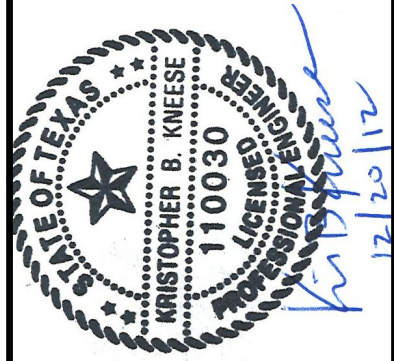
SECTION B-B
 SCALE 3/8" = 1'-0"



Revisions	Date	No.



Date: OCTOBER 2012
 Designed by: K.B.K.
 Drawn by: R.R.
 Checked by: G.S.
 Scale: 3/8" = 1'-0"

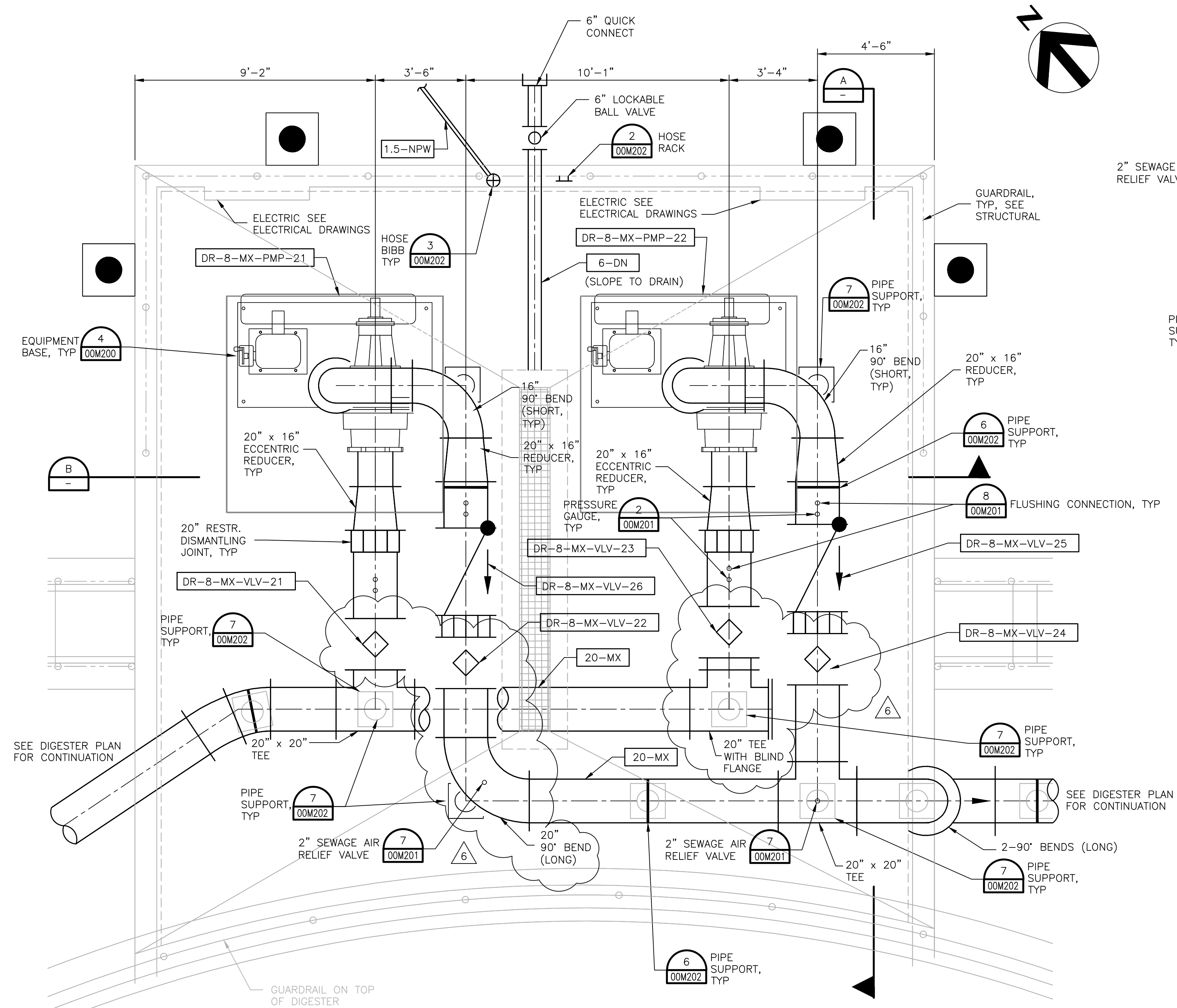


SAN ANTONIO WATER SYSTEM

SAWS Job No. 11-6502
 DRWRC - DIGESTER MIXING AND SYSTEM ENHANCEMENTS, PHASE II
 DIGESTER No.2 MIXING PUMP PLAN AND SECTIONS

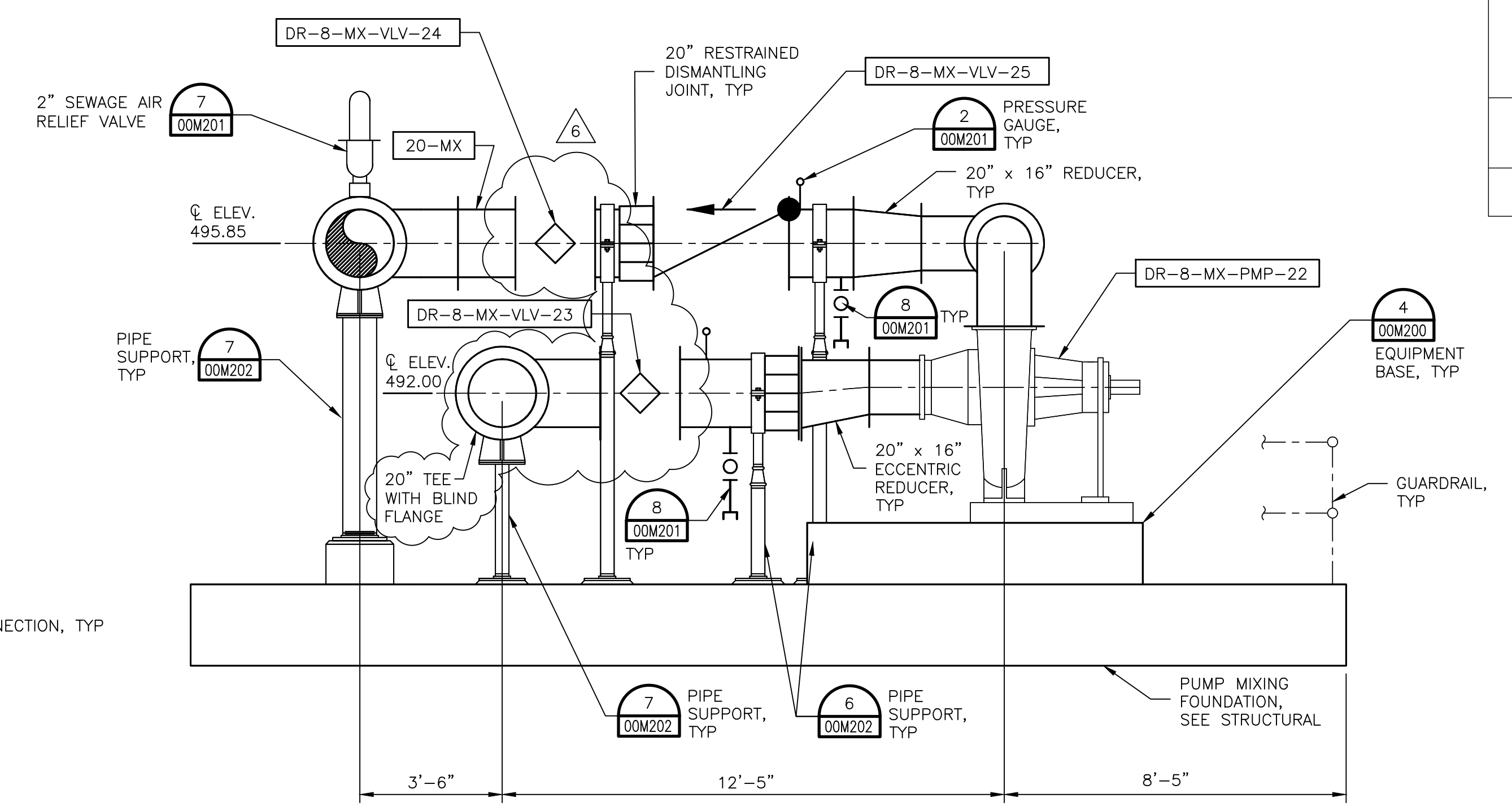
Dwg. No.

03M203

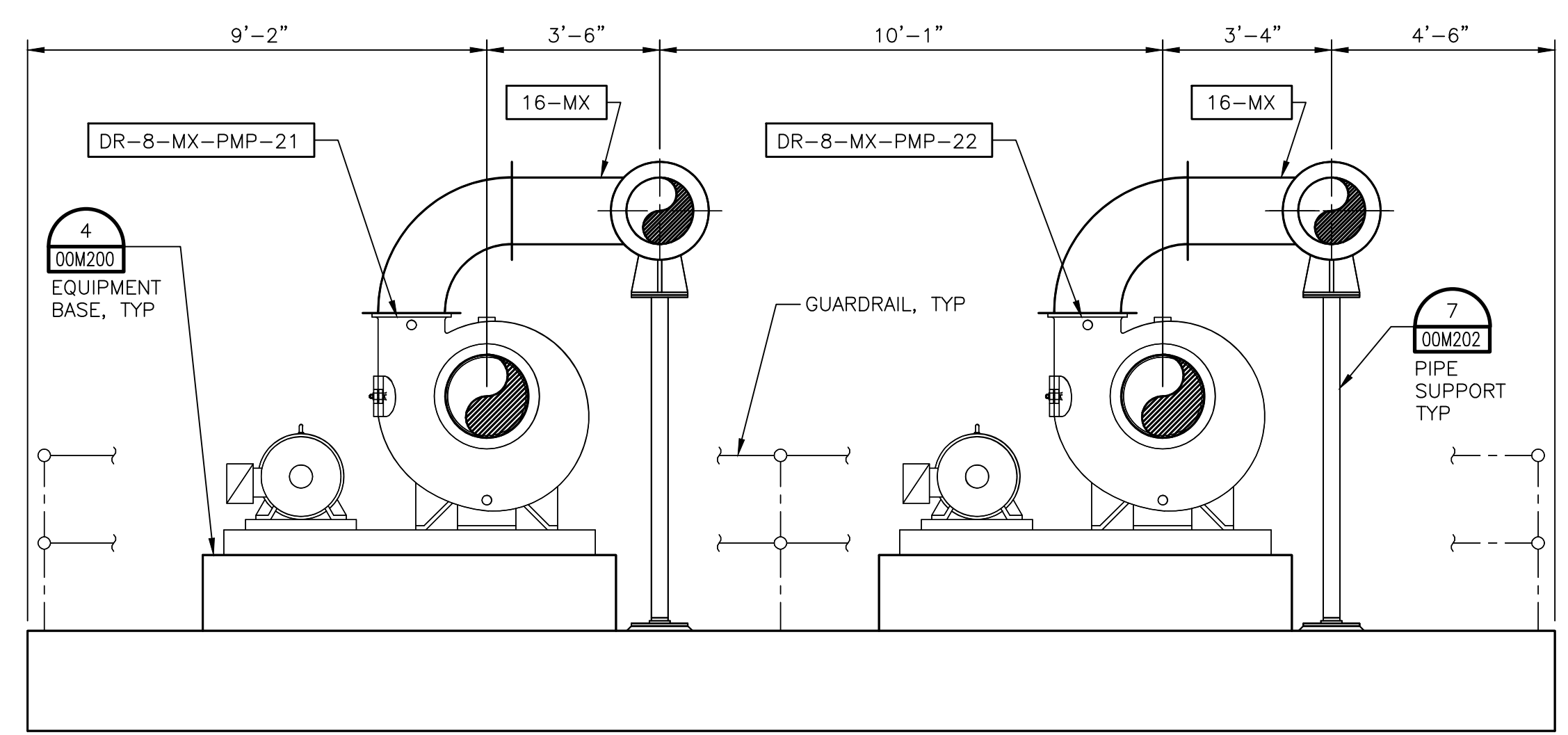


DIGESTER NO. 2

DIGESTER NO. 2 MIXING PUMP PLAN
 SCALE 3/8" = 1'-0"



SECTION A-A
 SCALE 3/8" = 1'-0"



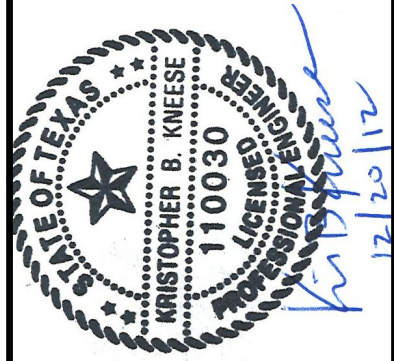
SECTION B-B
 SCALE 3/8" = 1'-0"

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY.

No.	Date	Revisions



Date: OCTOBER 2012
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 Drawn by: R.R.
 Checked by: G.S.
 Scale:

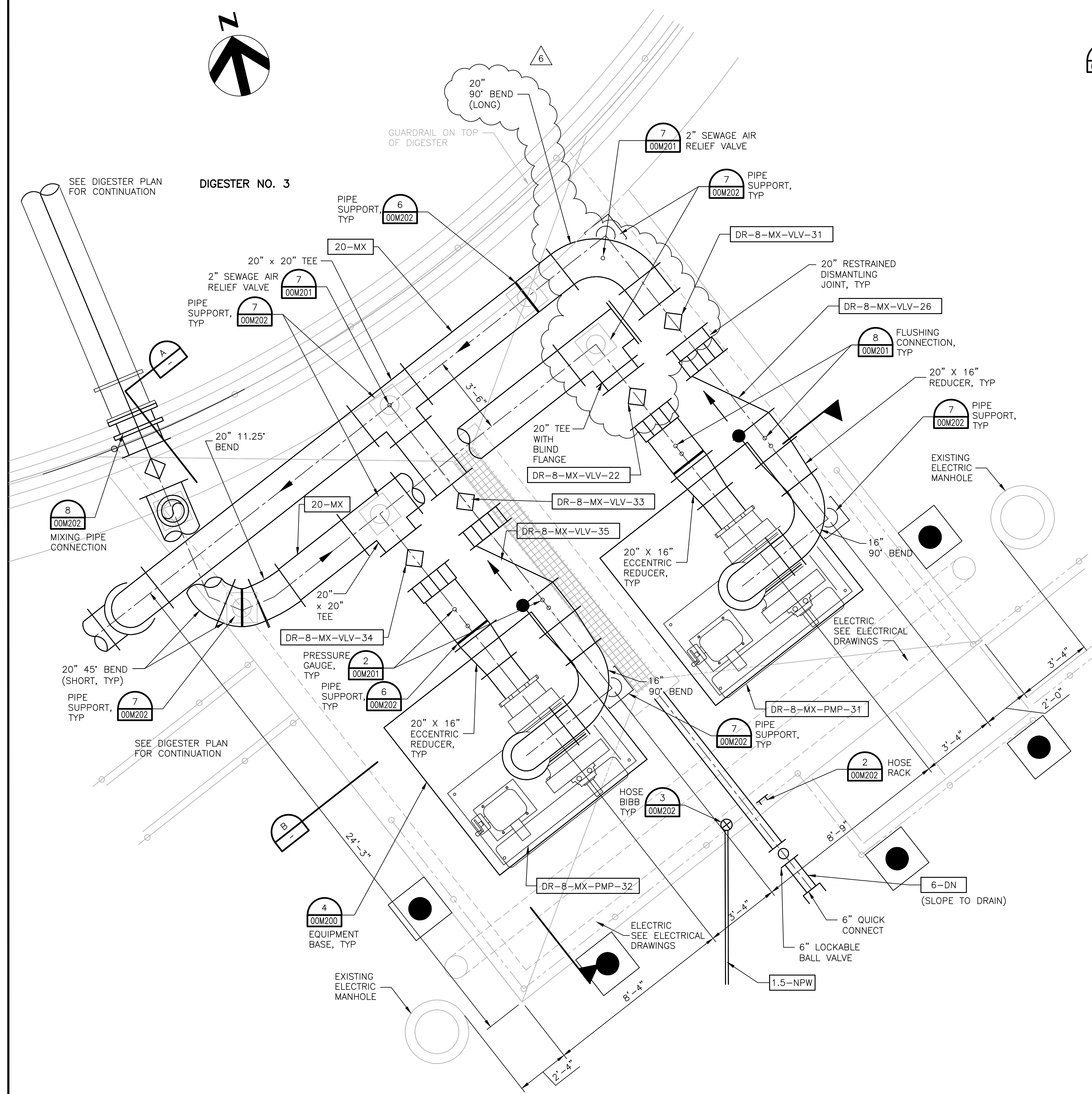


SAN ANTONIO WATER SYSTEM

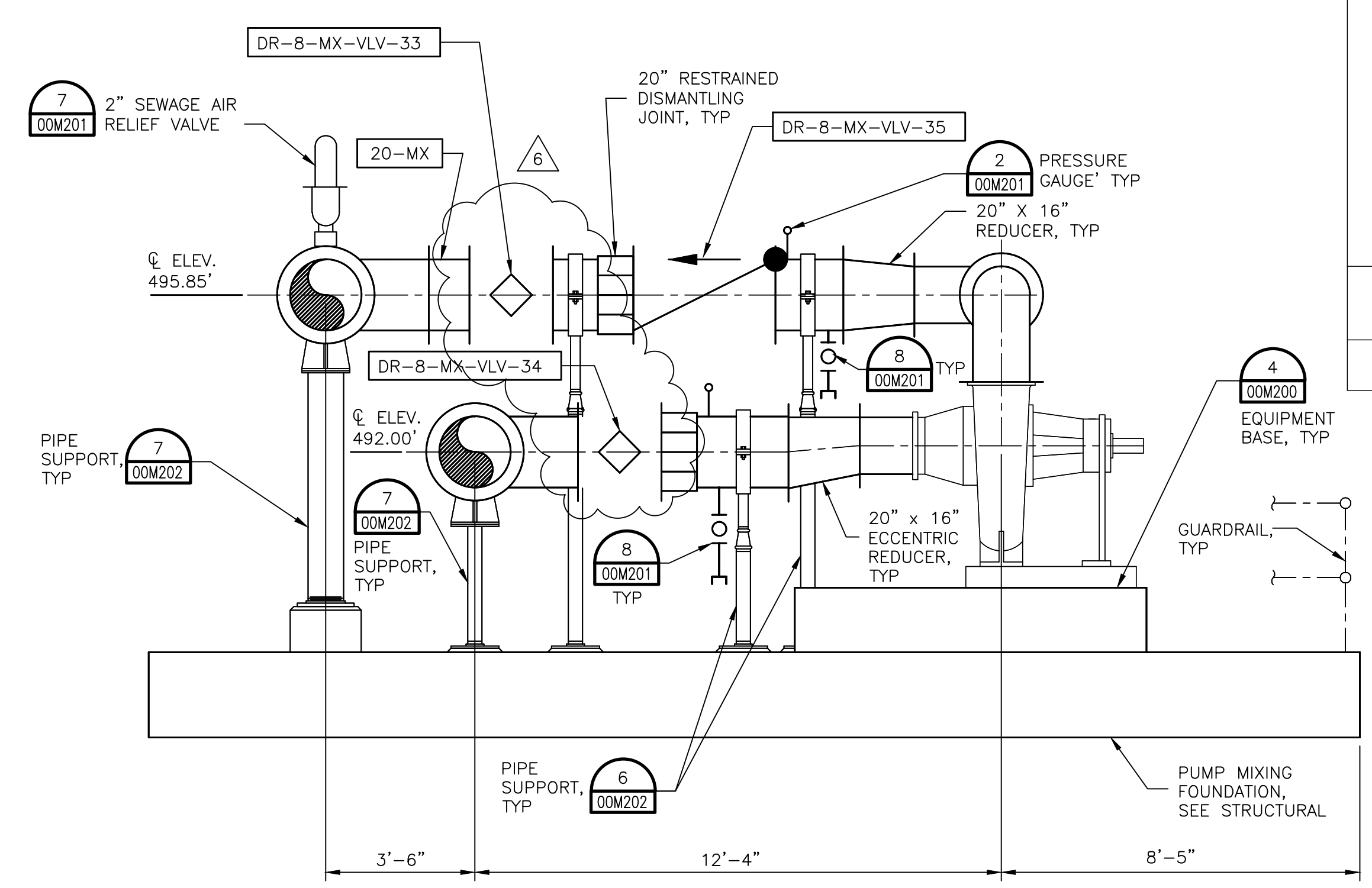
SAWS Job No. 11-6502
 DRWRC - DIGESTER MIXING AND SYSTEM ENHANCEMENTS, PHASE II
 DIGESTER No.3 MIXING PUMP PLAN AND SECTIONS

Dwg. No.

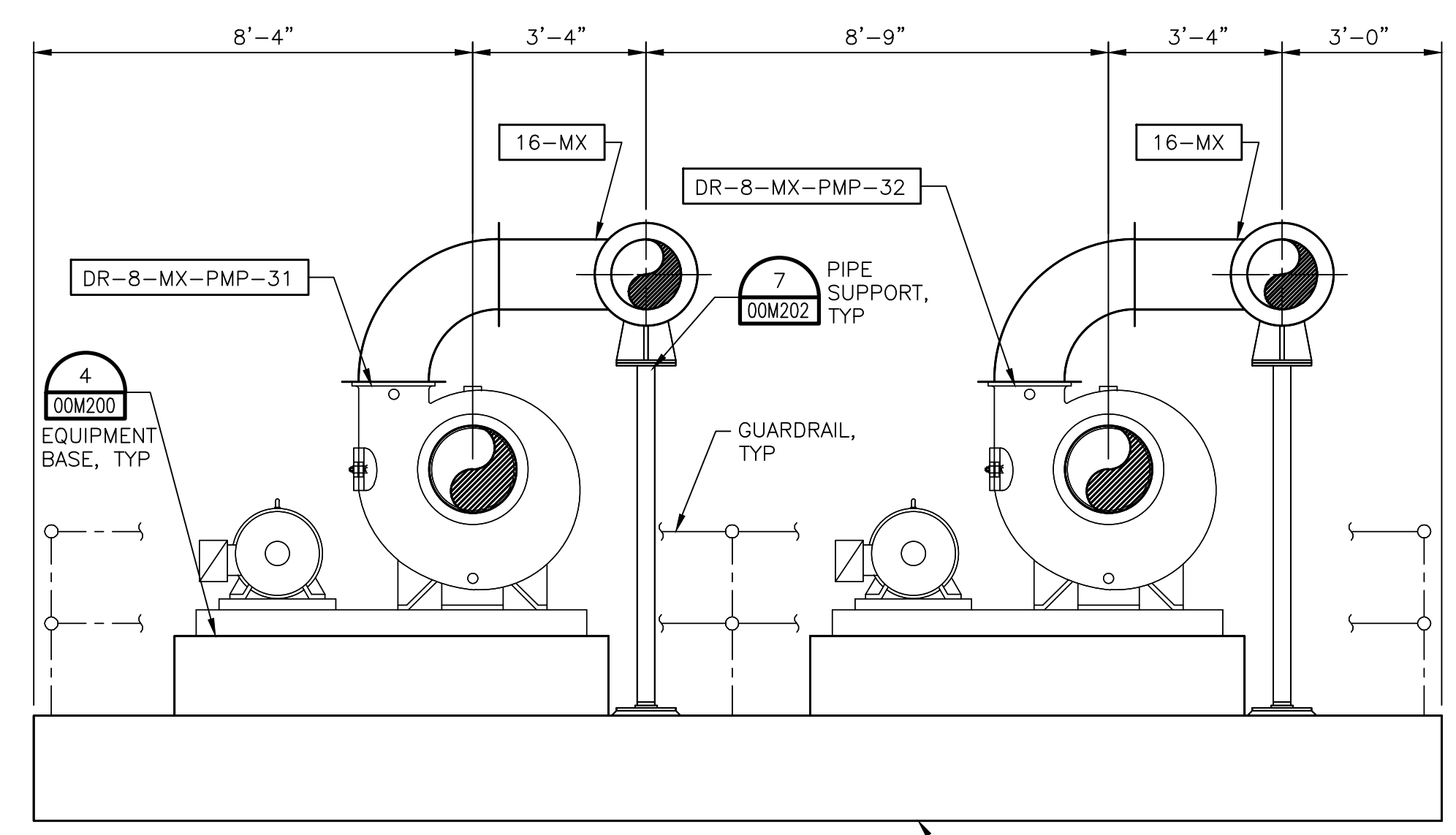
03M204



DIGESTER NO. 3 MIXING PUMP PLAN
 SCALE 3/8" = 1'-0"



SECTION A-A
 SCALE 3/8" = 1'-0"



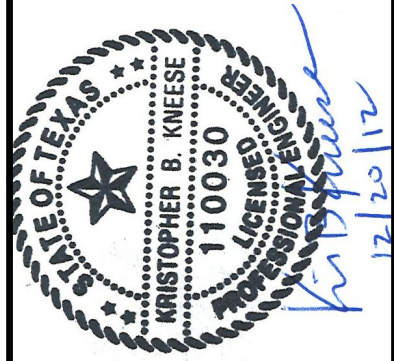
SECTION B-B
 SCALE 3/8" = 1'-0"

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY.

No.	Date	Revisions



Date: OCTOBER 2012
 Designed by: K.B.K.
 Drawn by: R.R.
 Checked by: G.S.
 Scale:

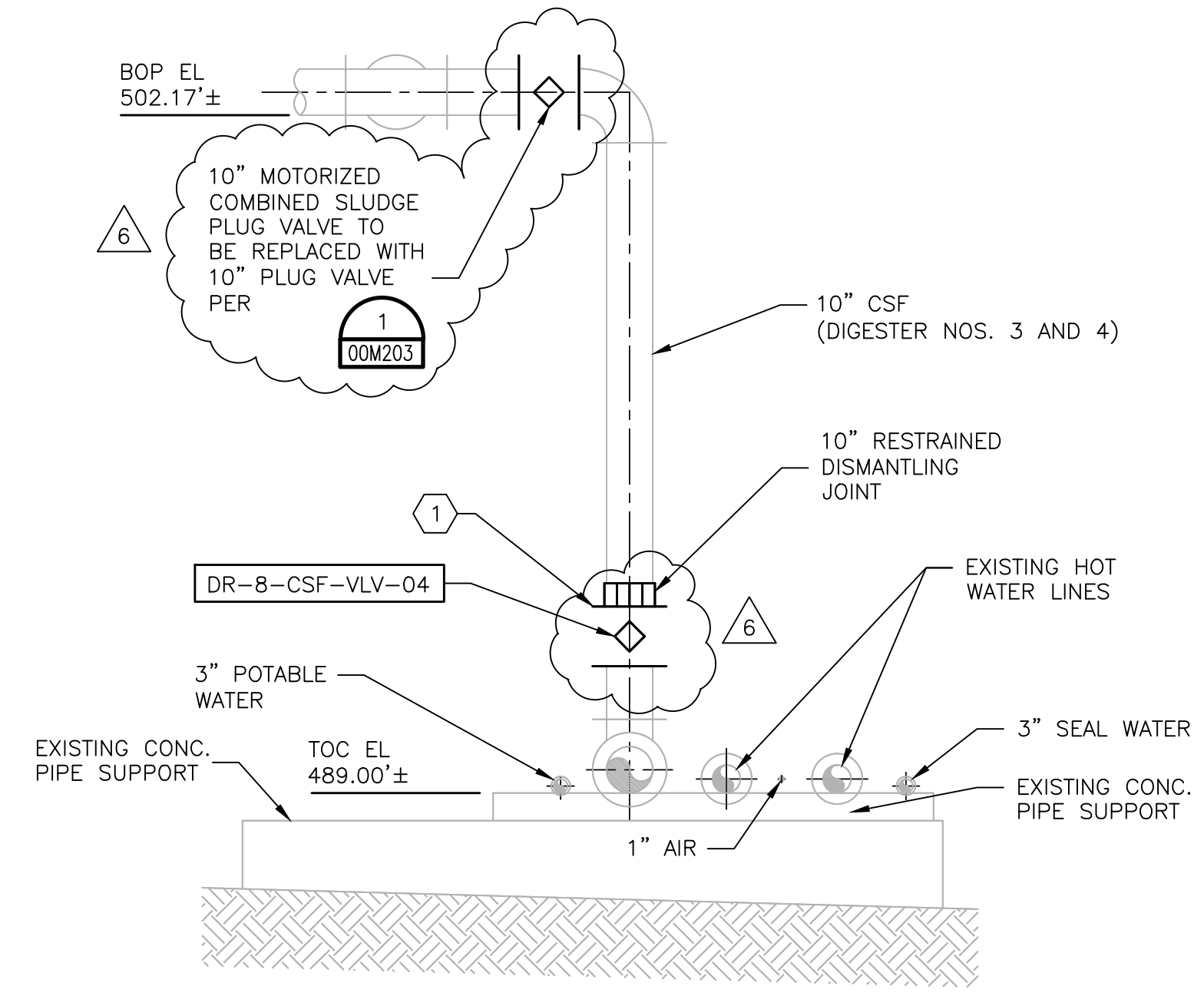


SAN ANTONIO
 WATER SYSTEM

SAWS Job No. 11-6502
 DRWRC - DIGESTER MIXING AND
 SYSTEM ENHANCEMENTS, PHASE II
 DIGESTER SLUDGE FEED BYPASS
 SECTIONS AND DETAILS

Dwg. No.

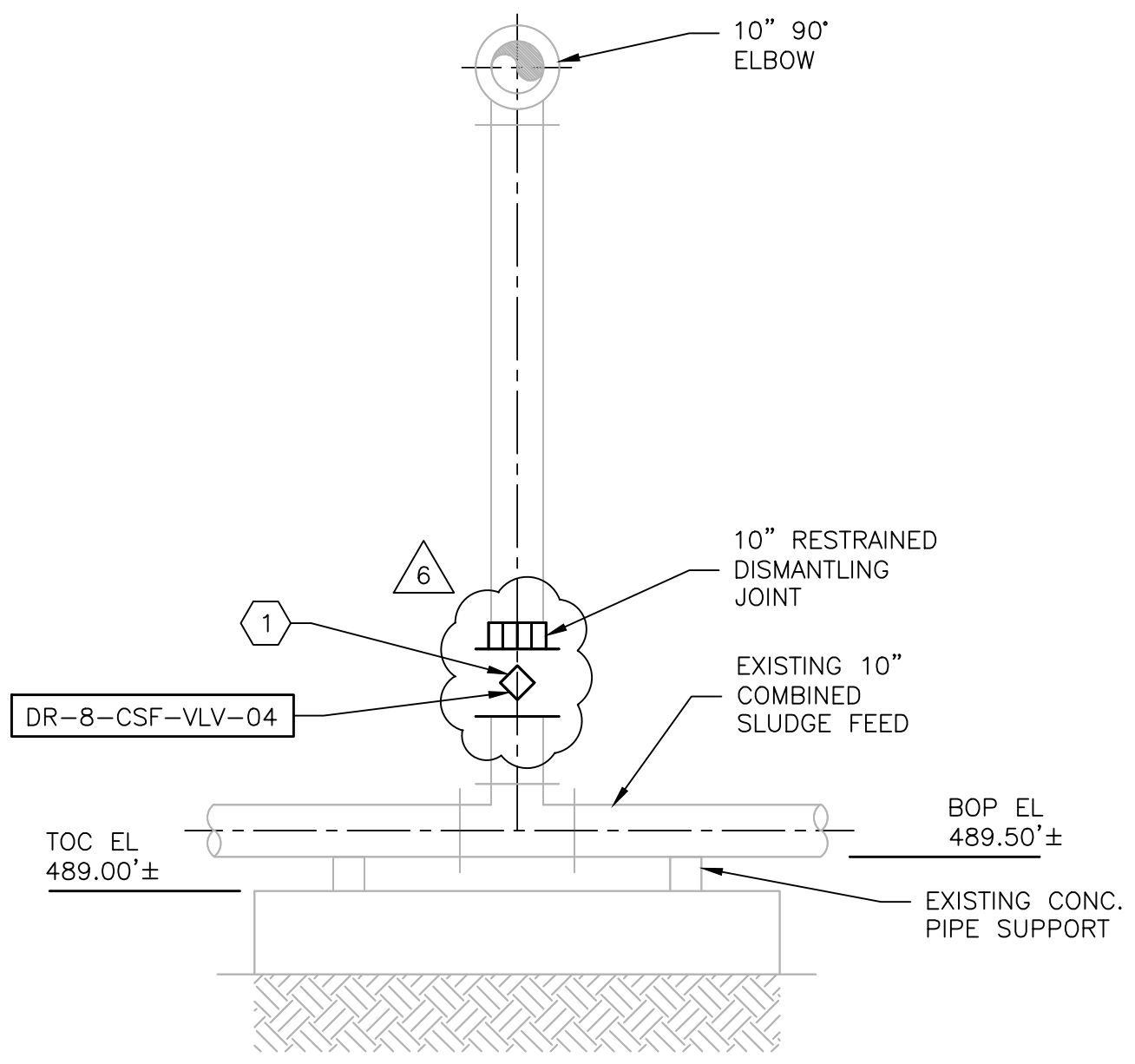
03M205



SECTION A
 SCALE 3/8" = 1'-0"
 03M104

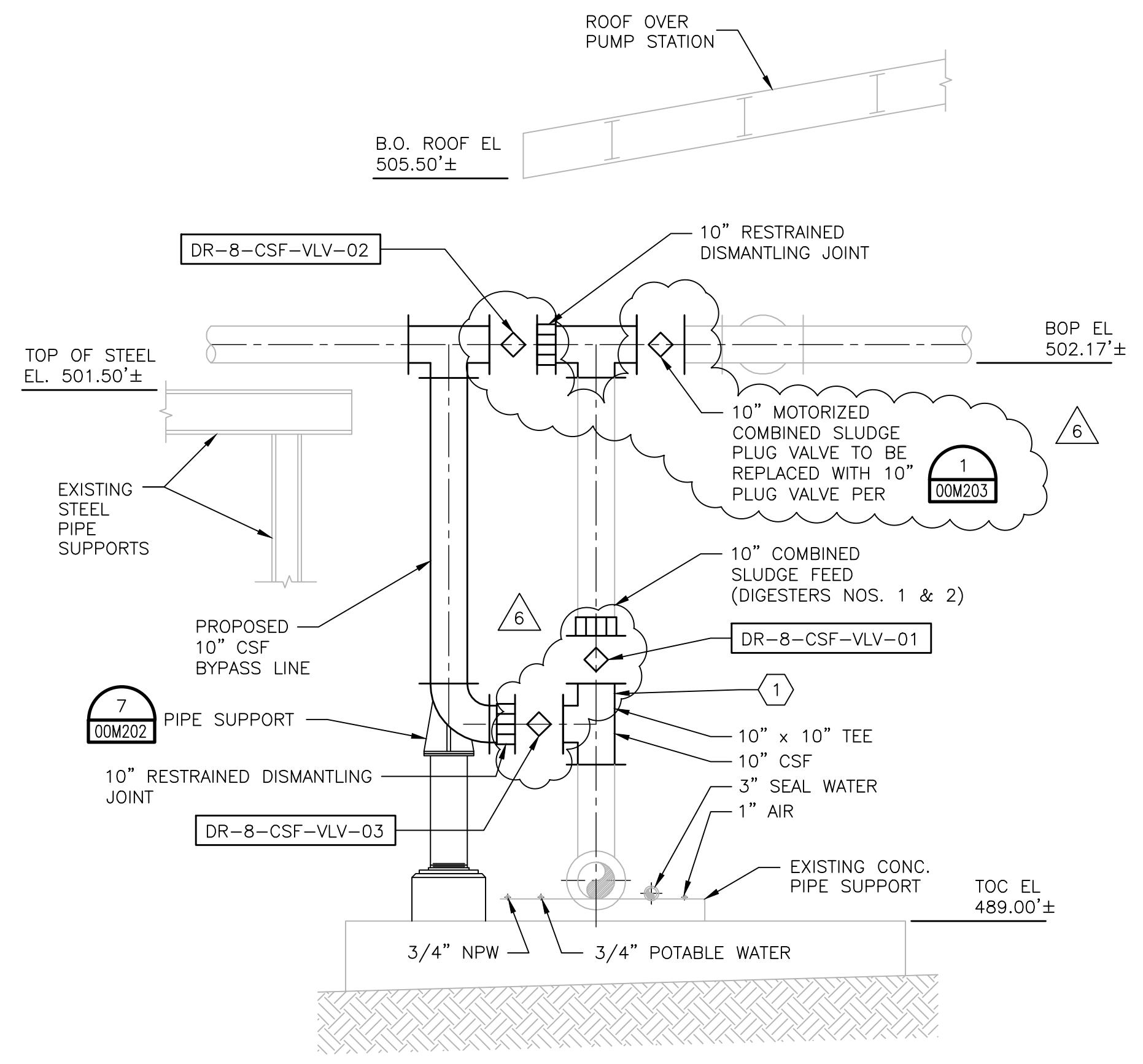
NOTES FOR SECTION A AND B

- SEE DETAIL 03M401 FOR PICTURE OF EXISTING PIPE
- SEE SPECIFICATION 01015 FOR OPERATIONAL LIMITATIONS TO TAKING THE CSF LINE OUT OF SERVICE.



SECTION B
 SCALE 3/8" = 1'-0"
 03M104

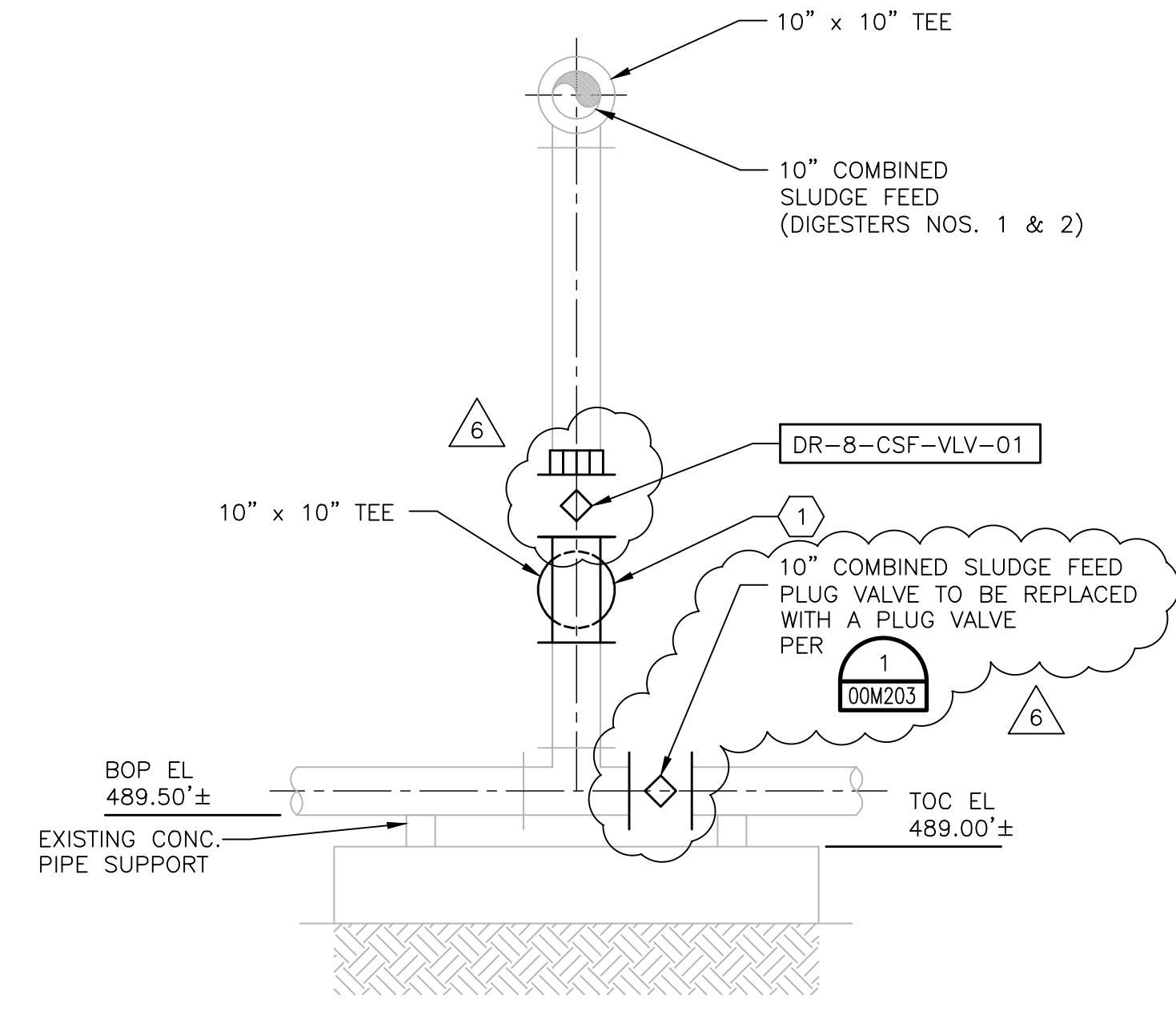
KEY NOTE
 1 CUT EXISTING PIPE PER REQUIREMENT IN SPECIFICATION 02072 AND INSTALL VALVES AND/OR FITTINGS AS SHOWN IN DRAWINGS.



SECTION C
 SCALE 3/8" = 1'-0"
 03M104

NOTES FOR SECTION C AND D

- SEE DETAIL 03M401 FOR PICTURE OF EXISTING PIPE
- SEE SPECIFICATION 01015 FOR OPERATIONAL LIMITATIONS TO TAKING THE CSF LINE OUT OF SERVICE.



SECTION D
 SCALE 3/8" = 1'-0"
 03M104



App.	HDR Job No. 174076
Revisions	
Date	
No.	



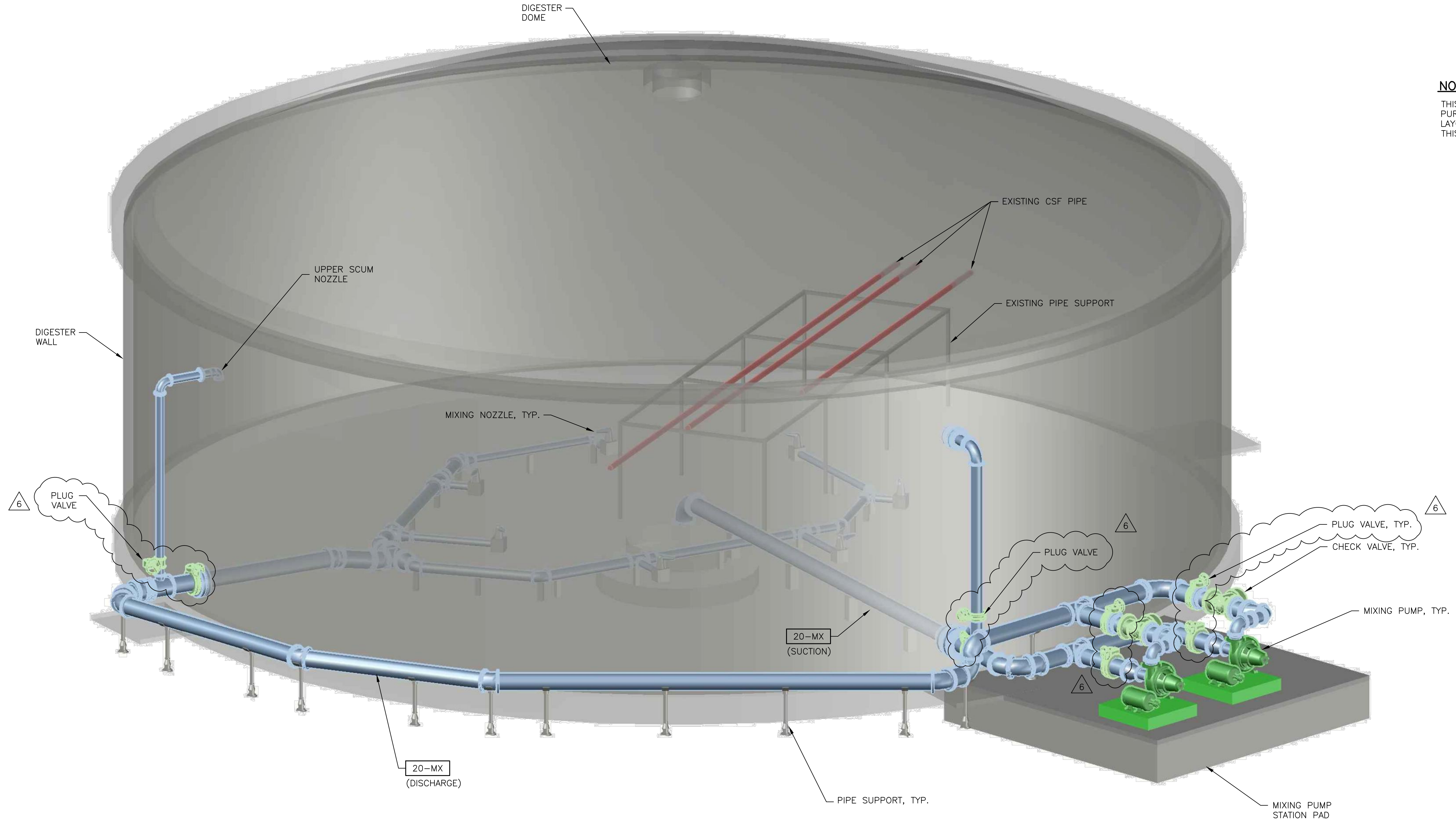
Date: OCTOBER 2012	Designed by: K.B.K.	Drawn by: R.R.	Checked by: G.S.	Scale:
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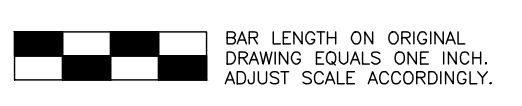
SAWS Job No. 11-6502
 DRWRC - DIGESTER MIXING AND
 SYSTEM ENHANCEMENTS, PHASE II
 TYPICAL 3D IMAGE OF DIGESTER
 PUMP MIXING SYSTEM

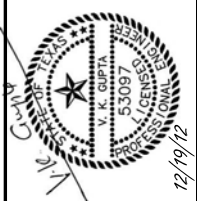
Dwg. No.
 03M404

NOTE
 THIS SHEET IS FOR ILLUSTRATIVE
 PURPOSES AND IS A TYPICAL
 LAYOUT FOR ALL DIGESTERS IN
 THIS PROJECT.

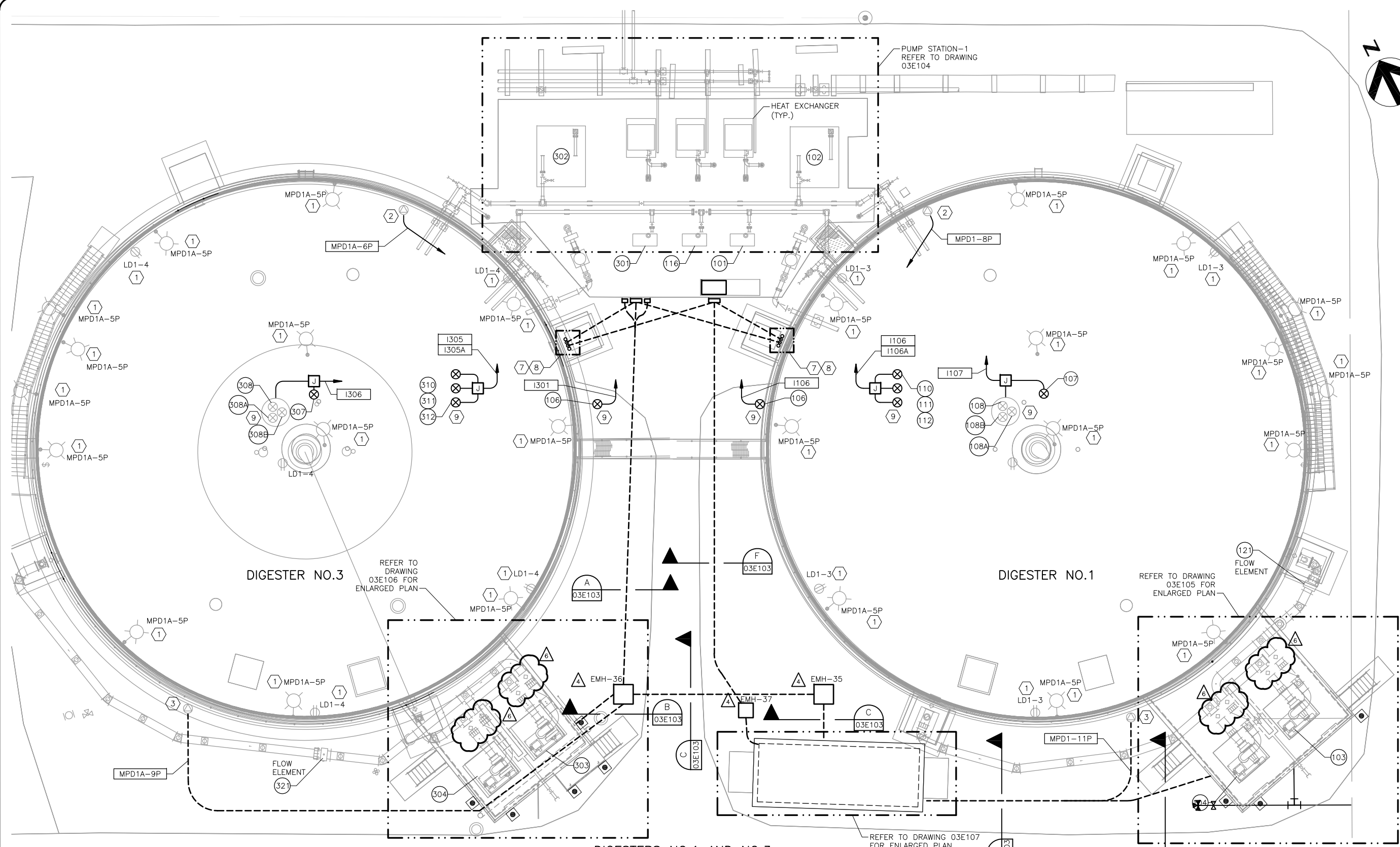


DIGESTER 3D PLAN
 NTS





GBL	ADDENDUM NO.6	App.
GBL	ADDENDUM NO.4	Revisions
B	12-16-2012	Date
A	11-14-2012	Date
No.		



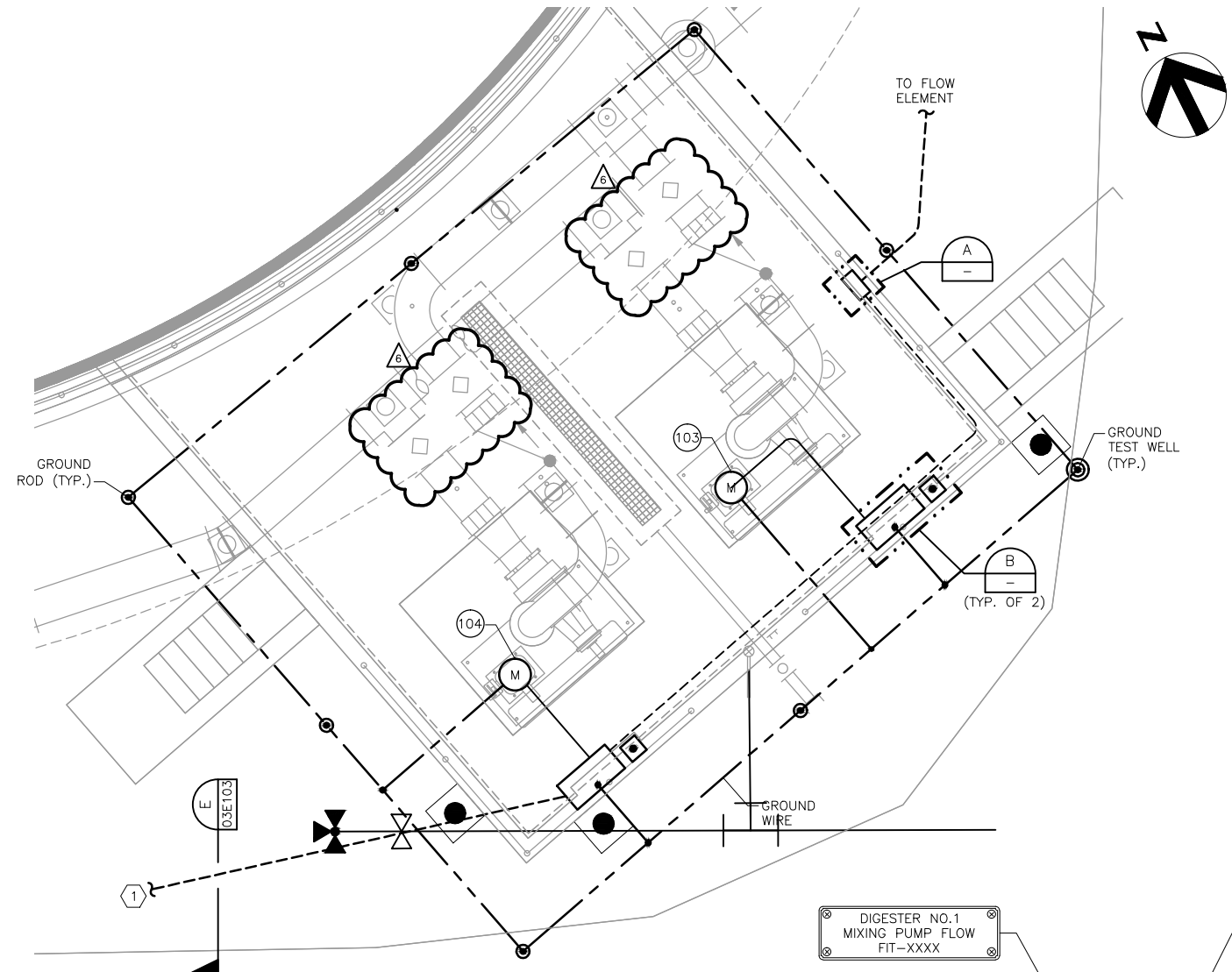
LEGEND:
 EQUIPMENT TAG REFER TO DRAWING 03E302.

- NOTES:**
- 1 RECONNECT POWER TO EXISTING LIGHT FIXTURES AND RECEPTACLES. INSTALL NEW WIRES, USE EXISTING CONDUIT ON TOP OF THE DIGESTERS, INSTALL NEW CONDUIT AS REQUIRED.
 - 2 RECONNECT POWER TO EXISTING 480V RECEPTACLE. INSTALL NEW WIRES. THE EXISTING CONDUIT IS TO BE REUSED AND MODIFIED AS NEEDED.
 - 3 RECONNECT POWER TO EXISTING 480V RECEPTACLE. INSTALL NEW WIRES AND CONDUIT.
 - 4 REFER TO DRAWING 00E205 FOR AREA CLASSIFICATION BOUNDARIES.
 - 5 THE LOCATION OF INSTRUMENTS ARE SHOWN AS APPROXIMATION AND FOR INTERFACE ONLY. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF INSTRUMENT IN THE FIELD FOR INSTALLATION.
 - 6 THE CONTRACTOR SHALL FIELD ROUTE ALL CONDUITS.
 - 7 INSTALL ALL CONDUITS GOING TO THE TOP OF THE DIGESTER ON THE RACK TO BE PROVIDED BY THE GENERAL CONTRACTOR.
 - 8 MODIFY EXISTING CONDUITS AS NEEDED FOR NEW MOUNTING LOCATION.
 - 9 REFER TO SHEET 00I201 FOR MOUNTING DETAIL.

PLAN
1" = 10'

CONDUIT TAG NO.	SHEET REFERENCE
MPD1-*	03E303
MPD1A-*	03E303
I-*	03E307
LD1-*	03E107
C-*	03E308
P-*	03E306

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY.



DIGESTER NO.1 MIXING PUMP POWER & GROUND

PLAN 1 2 3 4
1/4" = 1'-0"

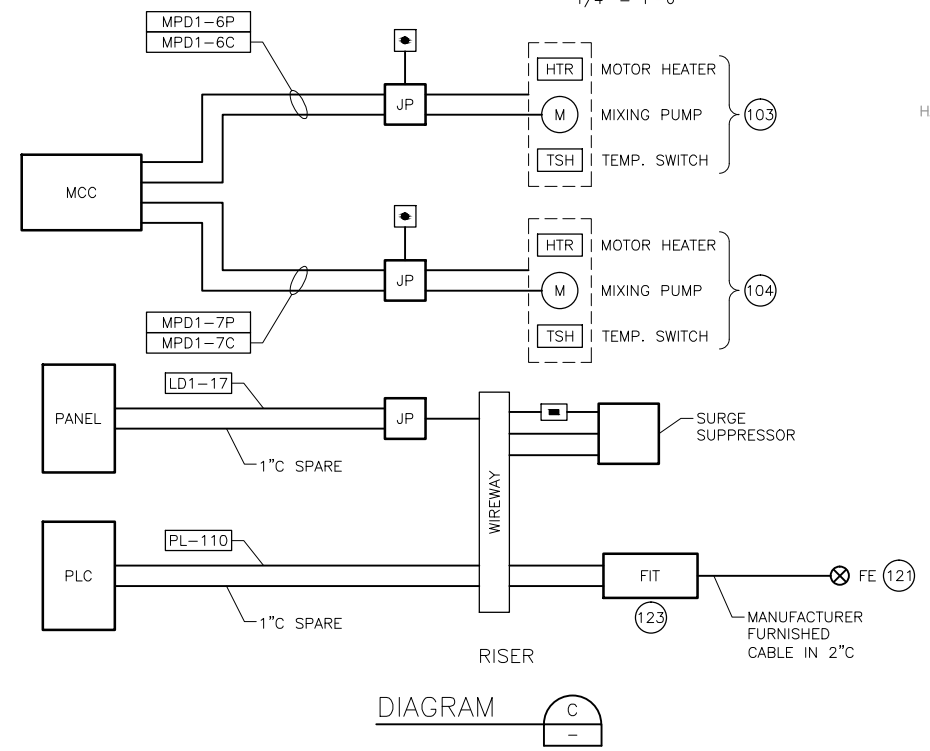
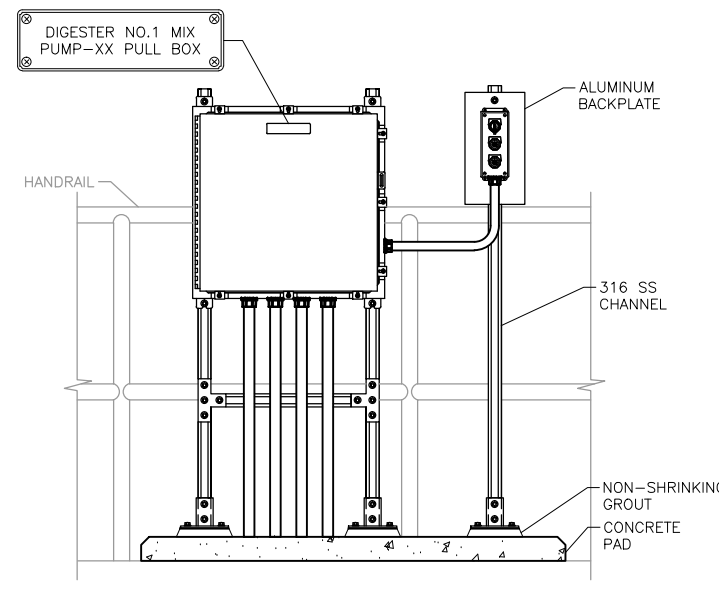


DIAGRAM C



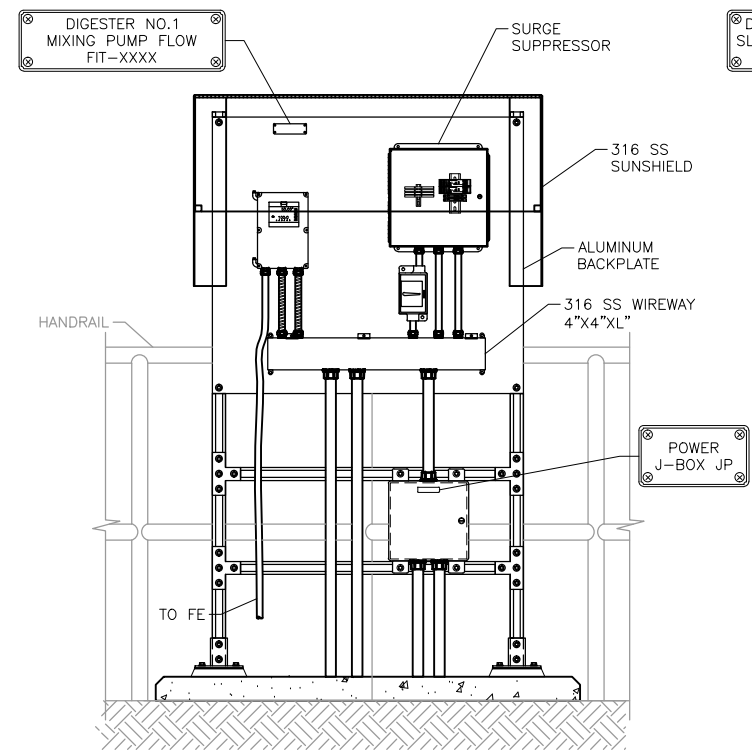
MIX PUMP PULL BOX

DETAIL B
TYP. OF 2

LEGEND:
96 EQUIPMENT TAG REFER TO DRAWING 03E302.

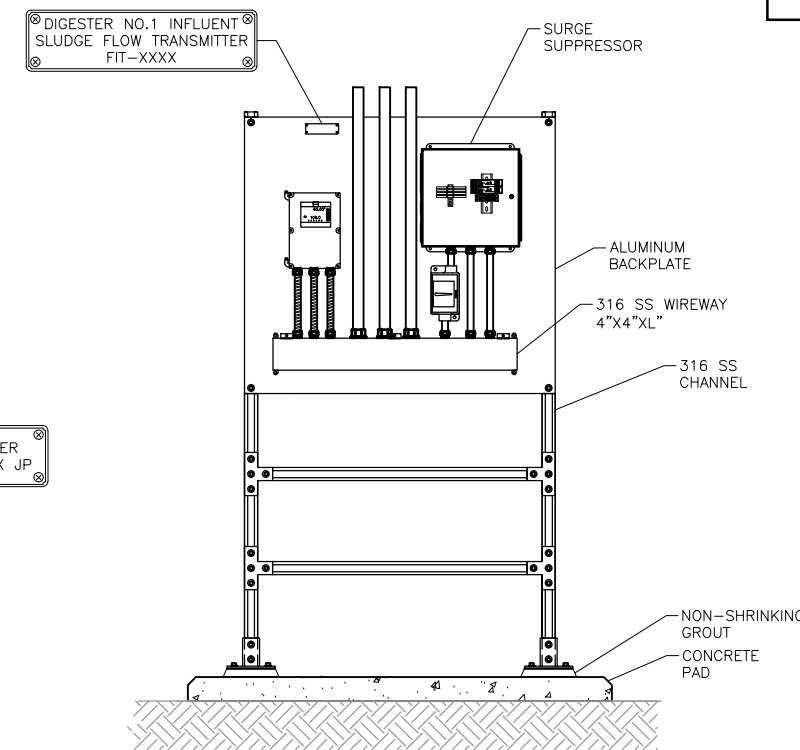
- NOTES:
- REFER TO DRAWING 03E102 FOR DUCTBANK CONTINUATIONS.
 - REFER TO DRAWING 00E205 FOR AREA CLASSIFICATION BOUNDARIES.
 - THE CONTRACTOR SHALL FIELD ROUTE ALL CONDUITS.
 - EXACT LOCATION OF THE EQUIPMENT SHALL BE FIELD VERIFIED.

CONDUIT TAG NO.	SHEET REFERENCE
MPD1-*	03E303
I-*	03E308
LD1-*	03E107
C-*	03E308
P-*	03E306



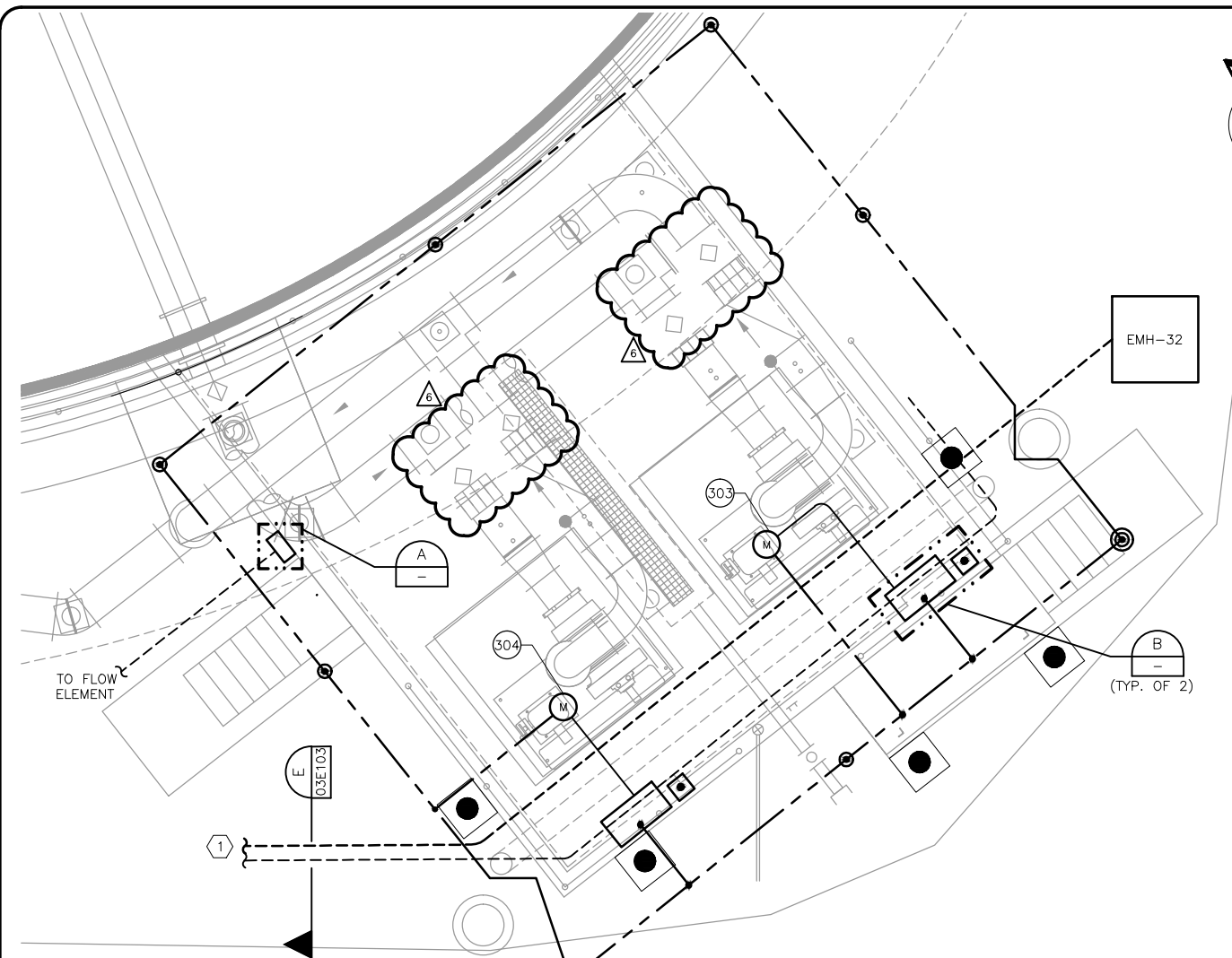
DIGESTER NO.1 MIXING PUMP FLOW TRANSMITTER

DETAIL A
NTS



DIGESTER NO.1 RECIRCULATED SLUDGE FLOW TRANSMITTER

DETAIL C
NTS
03E104



DIGESTER NO.3 MIXING PUMP
POWER & GROUND

PLAN
1/4" = 1'-0"

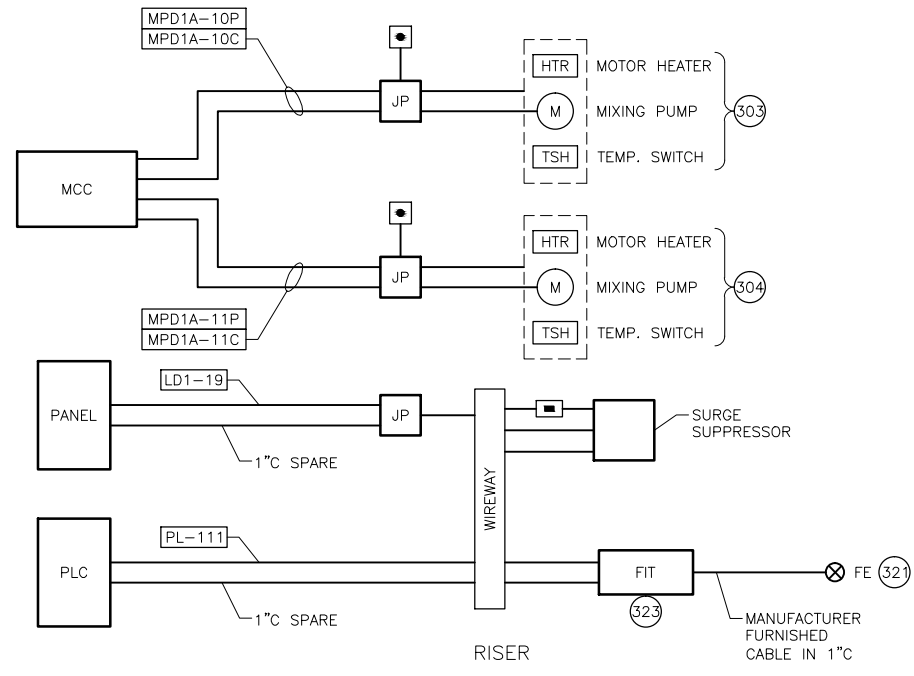
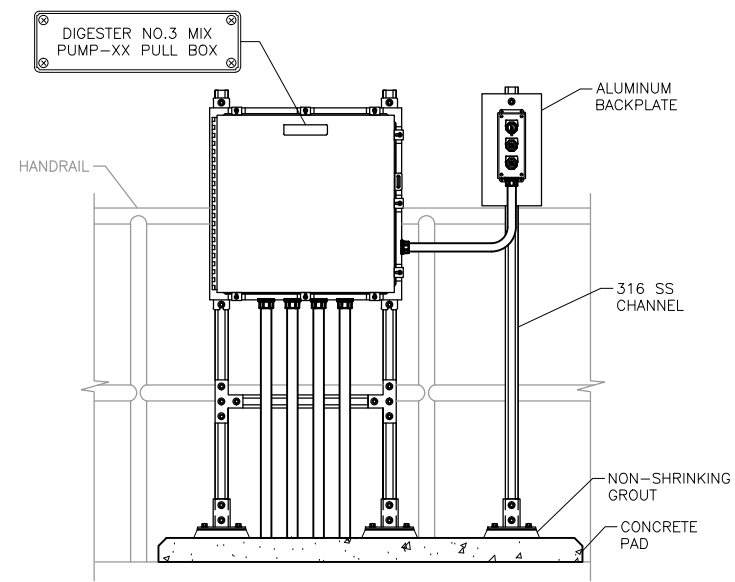
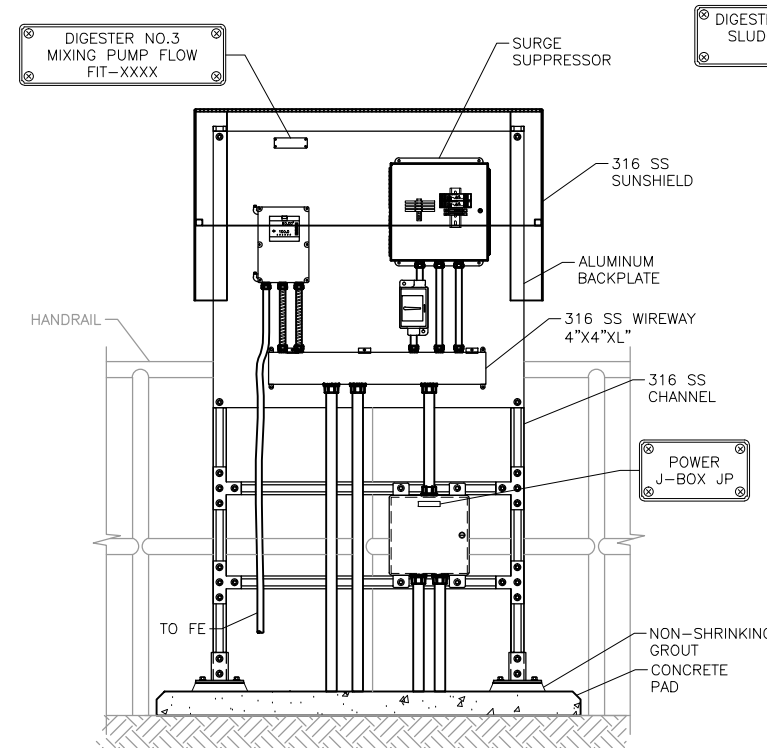


DIAGRAM
C



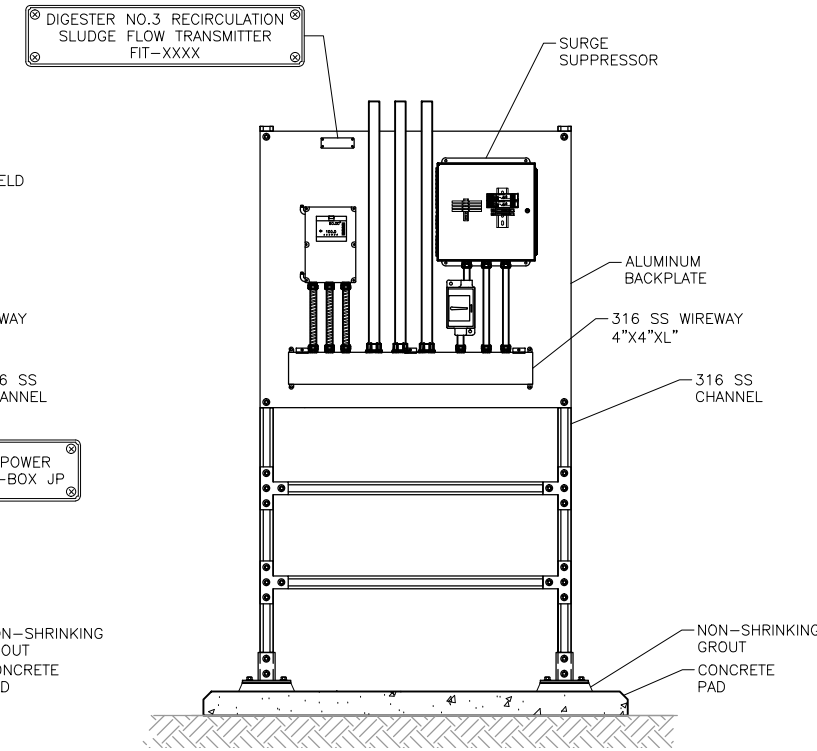
MIX PUMP PULL BOX

DETAIL
TYP. OF 2) B



DIGESTER NO.3 MIXING PUMP FLOW TRANSMITTER

DETAIL
NTS A



DIGESTER NO.3 RECIRCULATED SLUDGE FLOW TRANSMITTER

DETAIL
NTS C 03E104

LEGEND:
321 EQUIPMENT TAG REFER TO DRAWING 03E302.

- NOTES:
- 1 REFER TO DRAWING 03E102 FOR DUCTBANK CONTINUATIONS.
 - 2 REFER TO DRAWING 00E205 FOR AREA CLASSIFICATION BOUNDARIES.
 - 3 THE CONTRACTOR SHALL FIELD ROUTE ALL CONDUITS.
 - 4 EXACT LOCATION OF THE EQUIPMENT SHALL BE FIELD VERIFIED.

CONDUIT TAG NO.	SHEET REFERENCE
MPD1A-*	03E303
I-*	03E308
LD1-*	03E107
C-*	03E308
P-*	03E306

GBL	App.	Revisions	Date
A	12-16-2012	ADDENDUM NO. 6	No.

HDR
Job No. 174076

GAI
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Registration No. F-2993
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Fax: 281-490-7125
email: info@gaiinc.com

HDR
HDR Engineering, Inc.
TEXAS FIRM NO. F-754

Date: OCTOBER 2012
Designed by: LP
Drawn by: CTS
Checked by: GBL
Scale:



SAN ANTONIO
WATER
SYSTEM

SAWS Job No. 11-6502
DRWRC - DIGESTER MIXING AND
SYSTEM ENHANCEMENTS, PHASE II
DIGESTER NO. 3
MIXING PUMP AREA PLAN & DETAILS

Dwg. No.

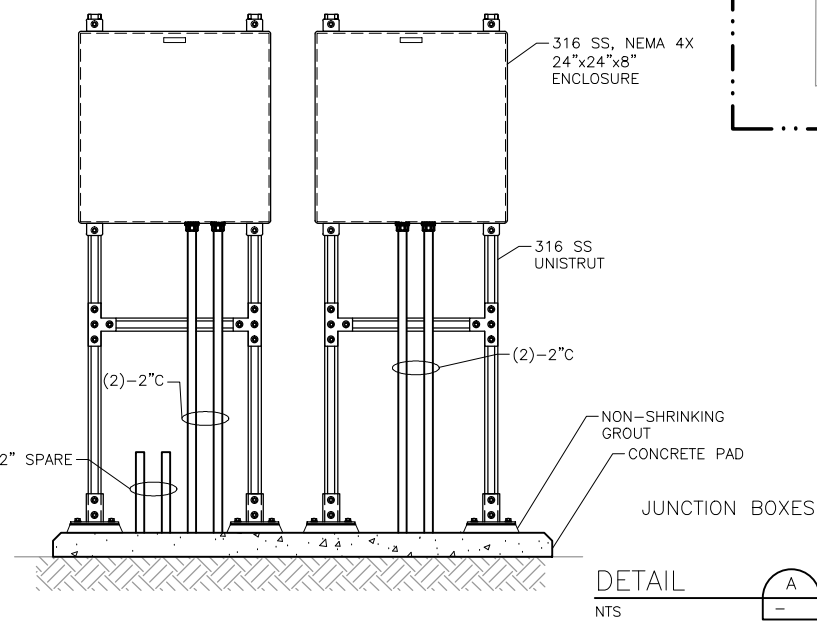
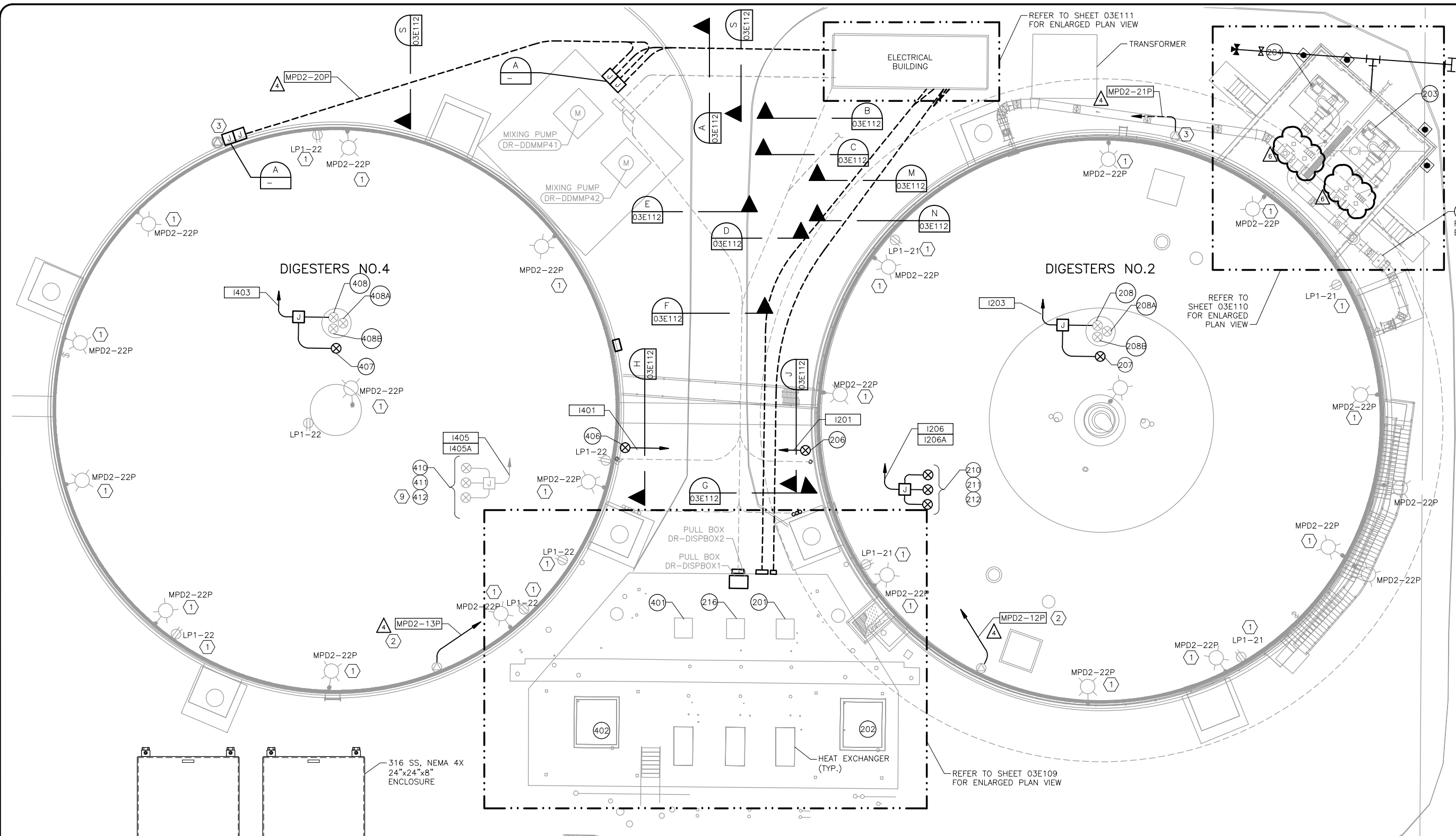
03E106



BAR LENGTH ON ORIGINAL
DRAWING EQUALS ONE INCH.
ADJUST SCALE ACCORDINGLY.



No.	Date	Revisions
B	12-16-2012	ADDENDUM NO.6
A	11-14-2012	ADDENDUM NO.4



LEGEND:

208 EQUIPMENT TAG REFER TO DRAWING 03E302.

DIGESTER NO.2 & NO.4

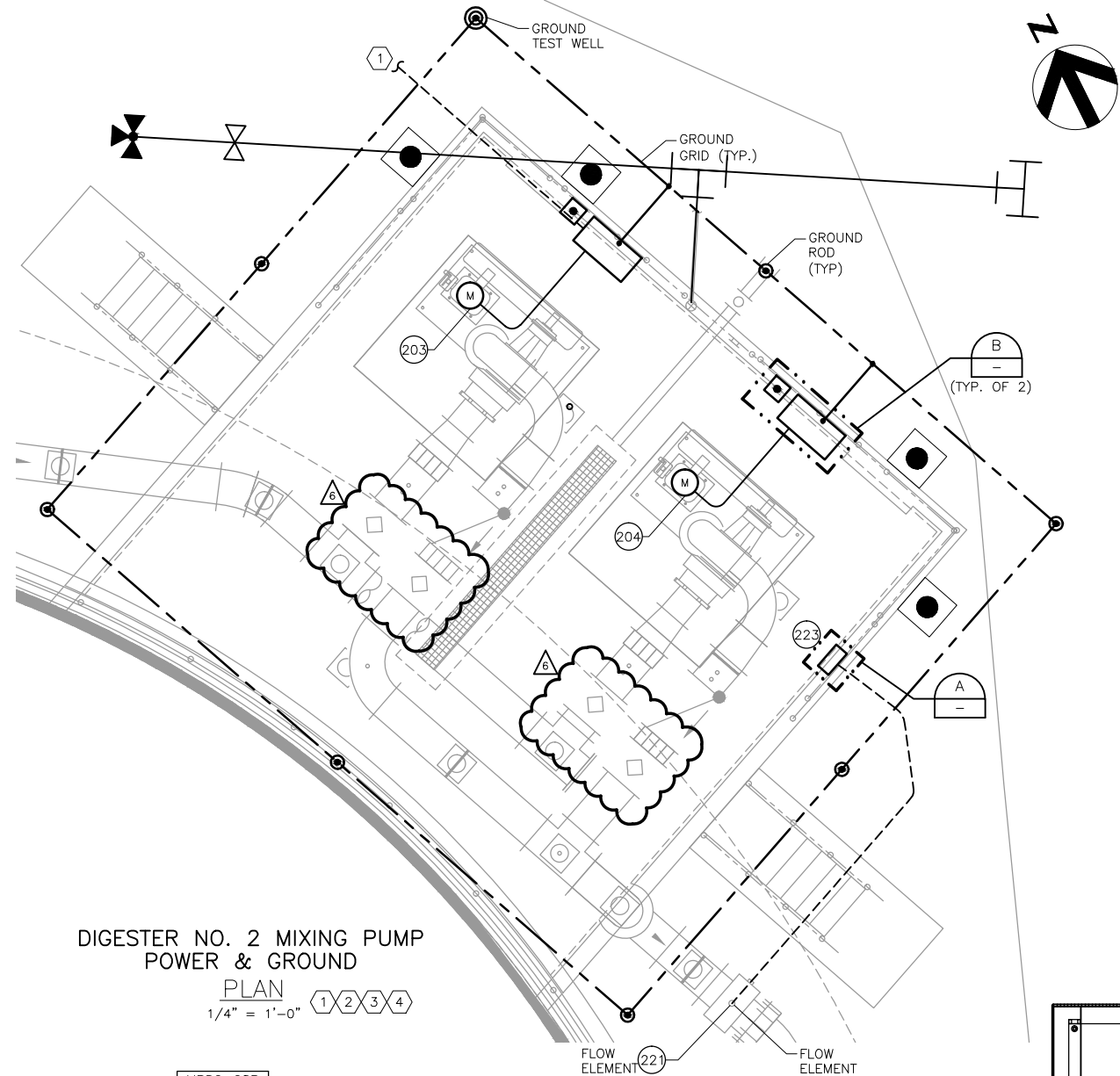
PLAN
1" = 10'

CONDUIT TAG NO.	SHEET REFERENCE
MPD2-*	03E304
I-*	03E308
LP1-*	03E111

NOTES:

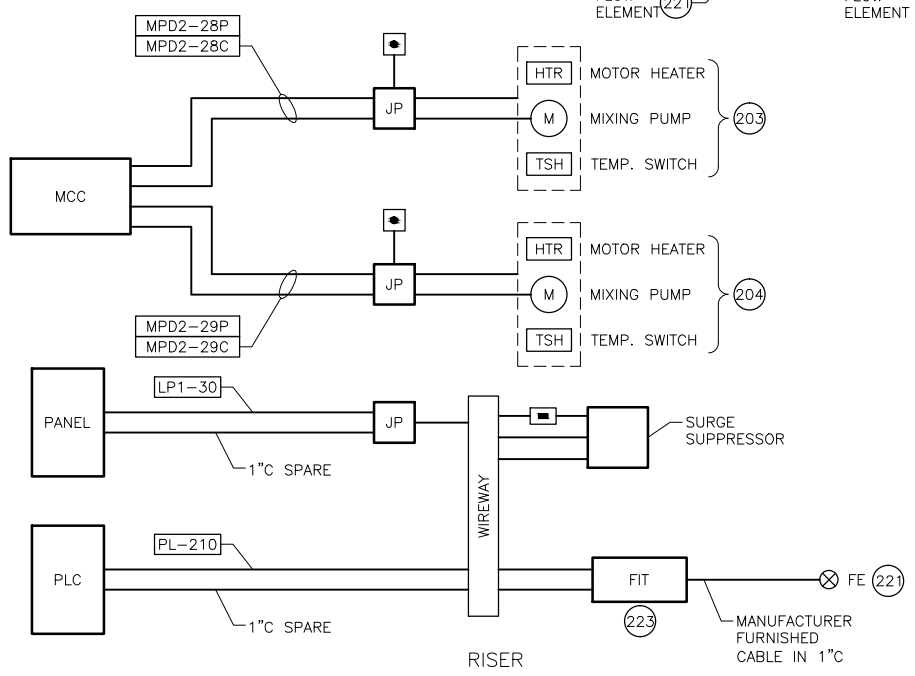
- 1 RECONNECT POWER TO EXISTING LIGHT FIXTURES AND RECEPTACLES. INSTALL NEW WIRES, USE EXISTING CONDUIT ON TOP OF THE DIGESTERS, INSTALL NEW CONDUIT AS REQUIRED.
- 2 RECONNECT POWER TO EXISTING 480V RECEPTACLE. INSTALL NEW WIRES. THE EXISTING CONDUIT IS TO BE REUSED AND MODIFIED AS NEEDED.
- 3 RECONNECT POWER TO EXISTING 480V RECEPTACLE. INSTALL NEW WIRES AND CONDUIT.
- 4 REFER TO DRAWING 00E205 FOR AREA CLASSIFICATION BOUNDARIES.
- 5 THE LOCATION OF INSTRUMENTS ARE SHOWN AS APPROXIMATION AND FOR REFERENCE ONLY. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF INSTRUMENT IN THE FIELD FOR INSTALLATION.
- 6 THE CONTRACTOR SHALL FIELD ROUTE ALL CONDUITS.
- 7 INSTALL ALL CONDUITS GOING TO THE TOP OF THE DIGESTER ON THE RACK TO BE PROVIDED BY THE GENERAL CONTRACTOR.
- 8 MODIFY EXISTING CONDUITS AS NEEDED FOR NEW MOUNTING LOCATION.
- 9 EXISTING GAS FLOW, PRESSURE, AND TEMPERATURE TRANSMITTERS ARE TO REMAIN. EXISTING CONDUIT AND WIRE TO THESE INSTRUMENTS ARE TO REMAIN.



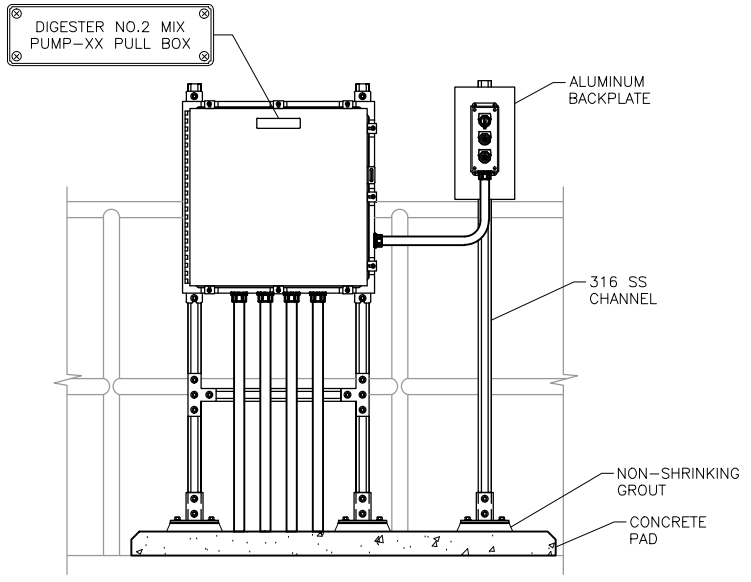


DIGESTER NO. 2 MIXING PUMP
POWER & GROUND

PLAN
1/4" = 1'-0"



DIAGRAM



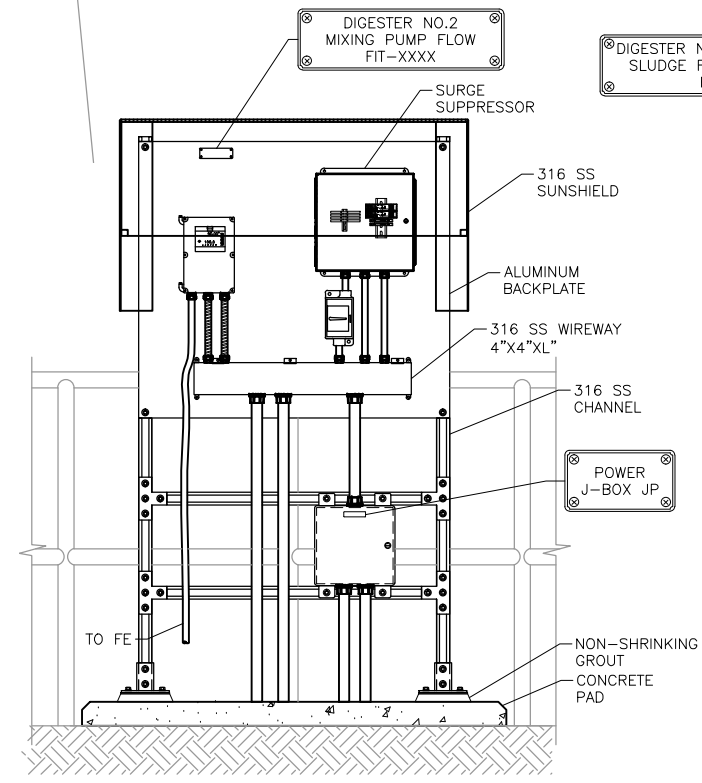
MIX PUMP PULL BOX

DETAIL
TYP. OF 2

LEGEND:
204 EQUIPMENT TAG REFER TO DRAWING 03E302.

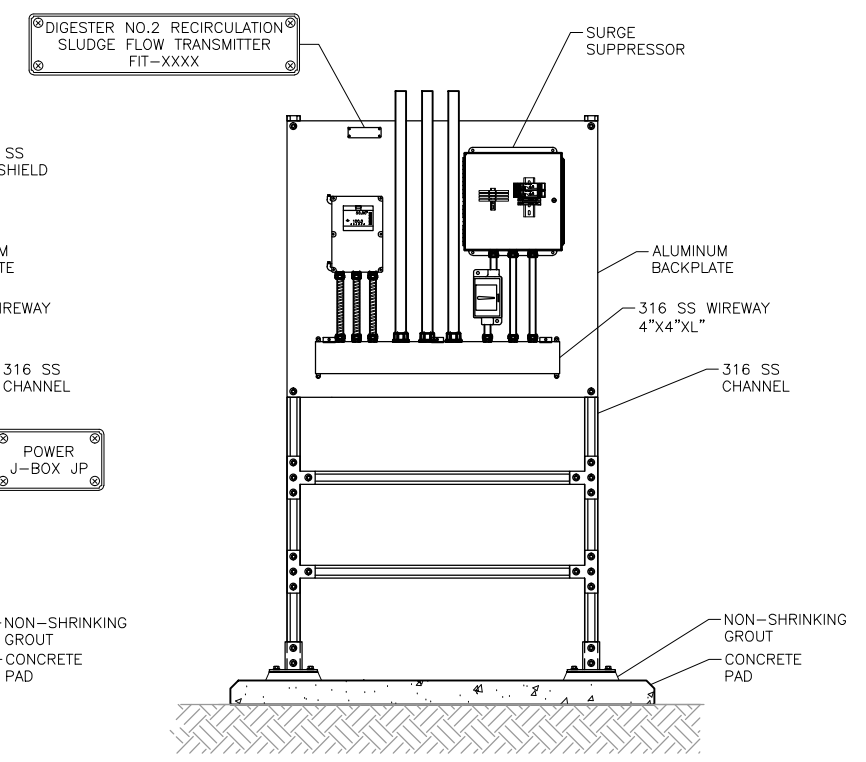
- NOTES:
- REFER TO DRAWING 03E108 FOR DUCTBANK CONTINUATION.
 - REFER TO DRAWING 00E205 FOR AREA CLASSIFICATION BOUNDARIES.
 - THE CONTRACTOR SHALL FIELD ROUTE ALL CONDUITS.
 - EXACT LOCATION OF THE EQUIPMENT SHALL BE FIELD VERIFIED.

CONDUIT TAG NO.	SHEET REFERENCE
MPD2-*	03E304
I-*	03E308
LP1-*	03E111
C-*	03E308
P-*	03E306



DIGESTER NO.2 MIXING PUMP FLOW TRANSMITTER

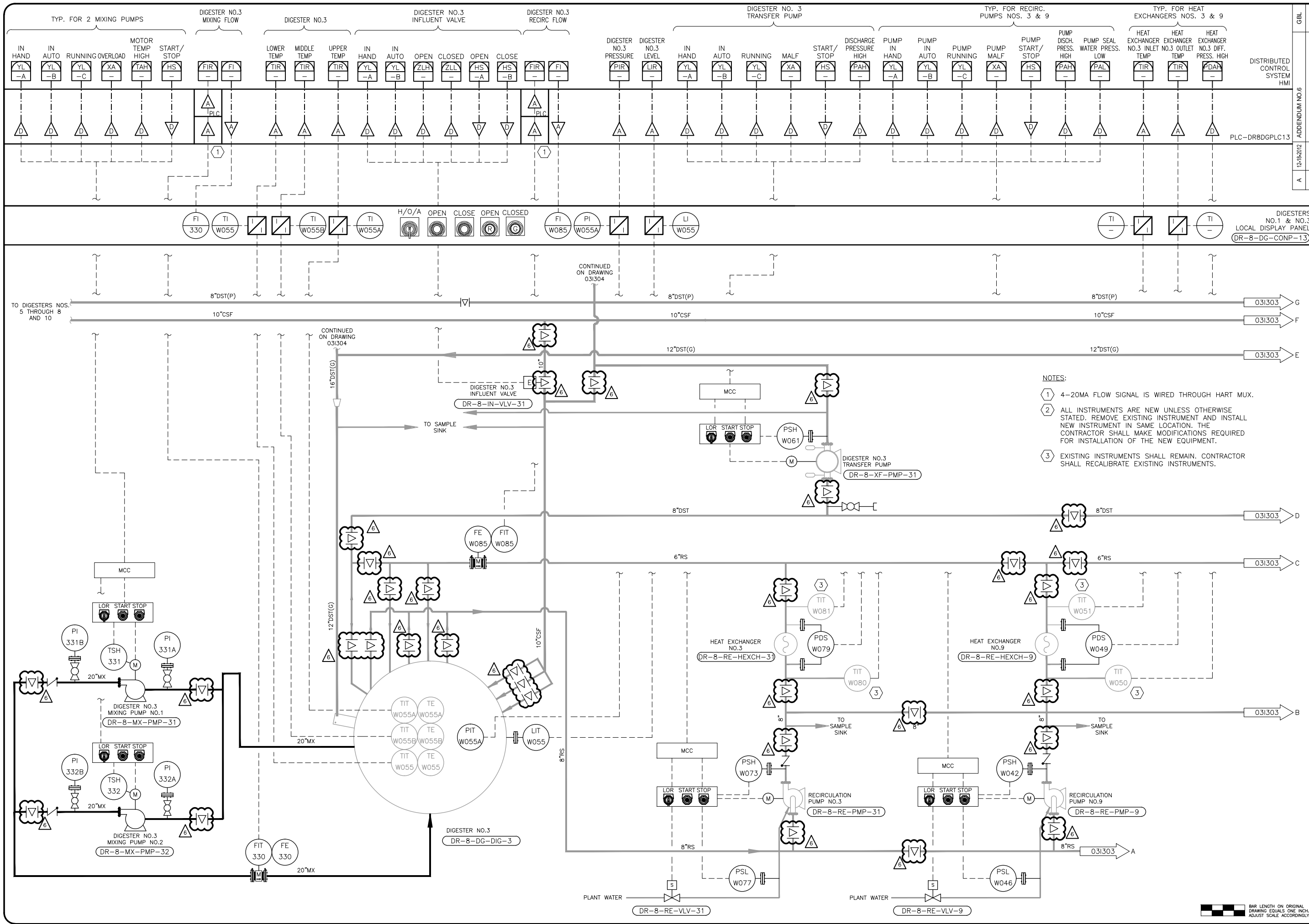
DETAIL
NTS



DIGESTER NO.2 RECIRCULATED SLUDGE FLOW TRANSMITTER

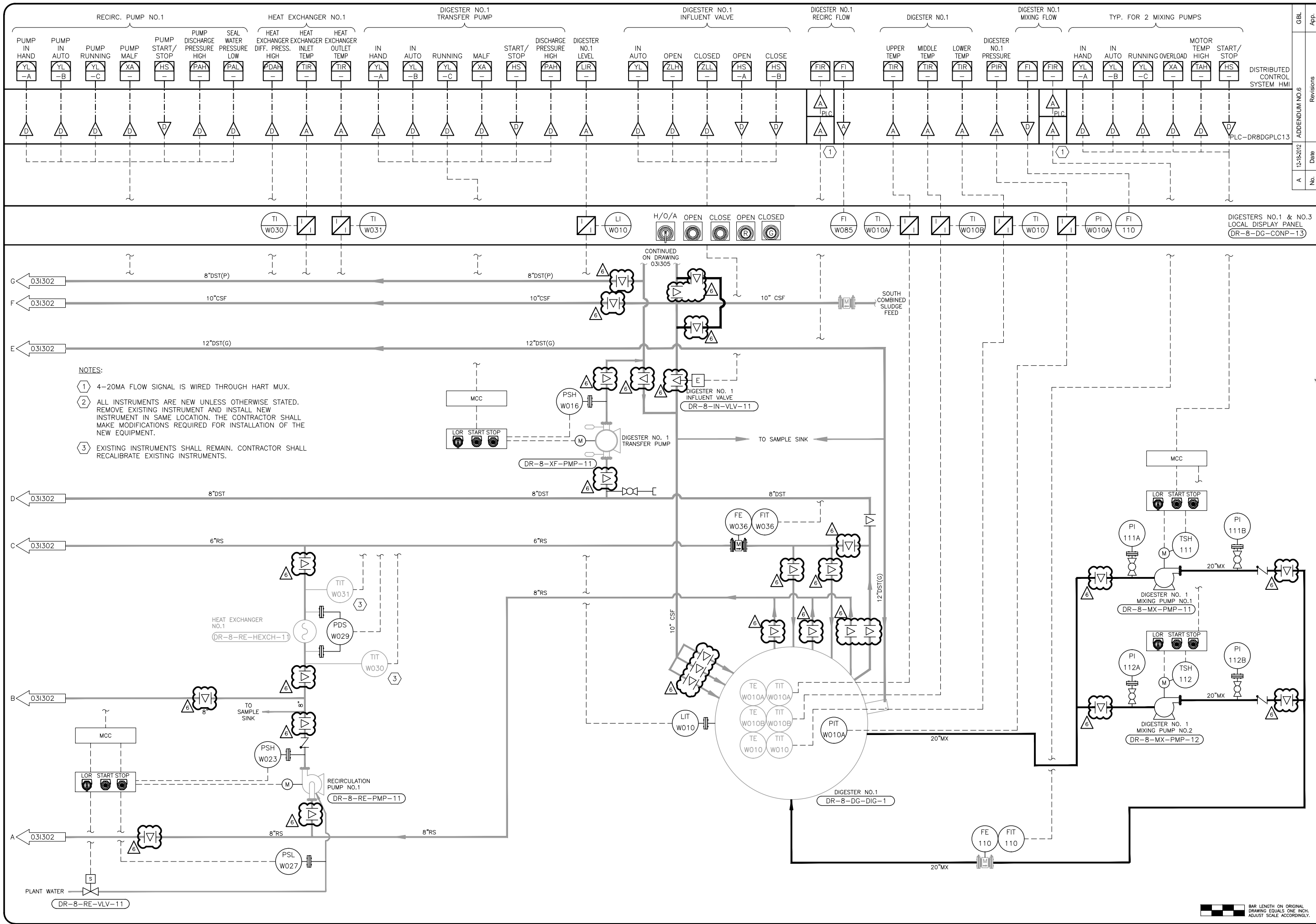
DETAIL
NTS

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HDR Job No. 174076	
GAI Gupta & Associates, Inc. consulting engineering Registration No. F-2954 1324 Gamma Road Houston, TX 77058 Tel: 972-490-7664 Fax: 972-490-7125 email: info@gaiinc.com	
HDR Engineering, Inc. TEXAS FIRM NO. F-754	
Date: OCTOBER 2012	Designed by: W.N.
	Drawn by: J.C.
	Checked by: V.K.G.
	Scale:
SAN ANTONIO WATER SYSTEM	
SAWS Job No. 11-6502 DRWRC - DIGESTER MIXING AND SYSTEM ENHANCEMENTS, PHASE II DIGESTER NO. 3 P&ID	
Dwg. No.	031302

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY.



NOTES:

- ① 4-20MA FLOW SIGNAL IS WIRED THROUGH HART MUX.
- ② ALL INSTRUMENTS ARE NEW UNLESS OTHERWISE STATED. REMOVE EXISTING INSTRUMENT AND INSTALL NEW INSTRUMENT IN SAME LOCATION. THE CONTRACTOR SHALL MAKE MODIFICATIONS REQUIRED FOR INSTALLATION OF THE NEW EQUIPMENT.
- ③ EXISTING INSTRUMENTS SHALL REMAIN. CONTRACTOR SHALL RECALIBRATE EXISTING INSTRUMENTS.

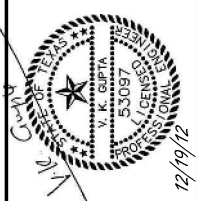
GBL	App.
ADDENDUM NO. 6	Revisions
12-16-2012	Date
A	No.

HDR
Job No. 174076

GAI
Gupta & Associates, Inc.
consulting engineering
Registration No. F-2952
1324 Gamma Road
Houston, Texas 77058
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Fax: 972-490-7125
email: wjg@gaiconsulting.com

HDR Engineering, Inc.
TEXAS FIRM NO. F-754

Date: OCTOBER 2012
Designed by: W.N.
Drawn by: J.C.
Checked by: V.K.G.
Scale:

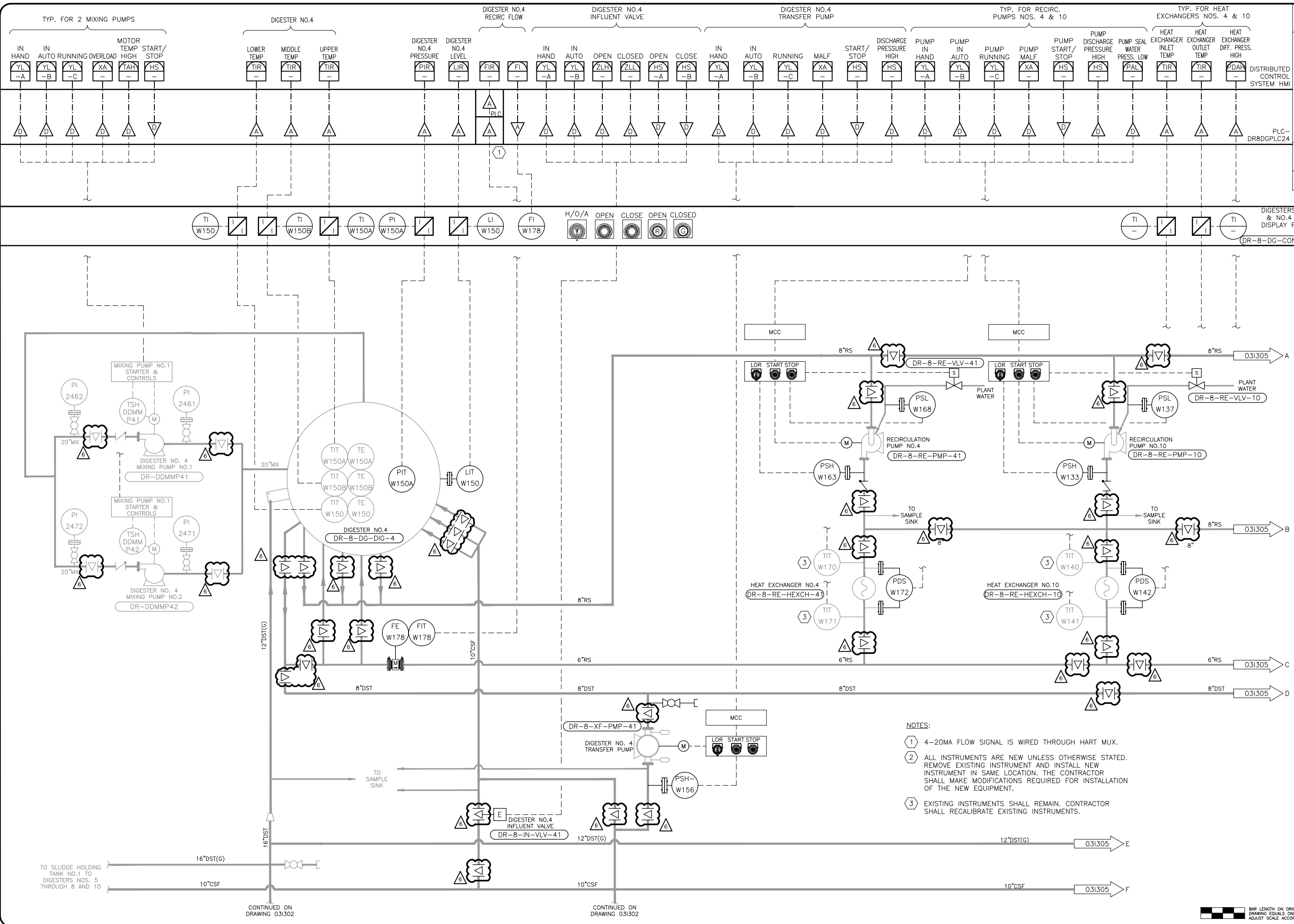


SAWS Job No. 11-6502
DRWRC - DIGESTER MIXING AND SYSTEM ENHANCEMENTS, PHASE II
DIGESTER NO. 1 P&ID

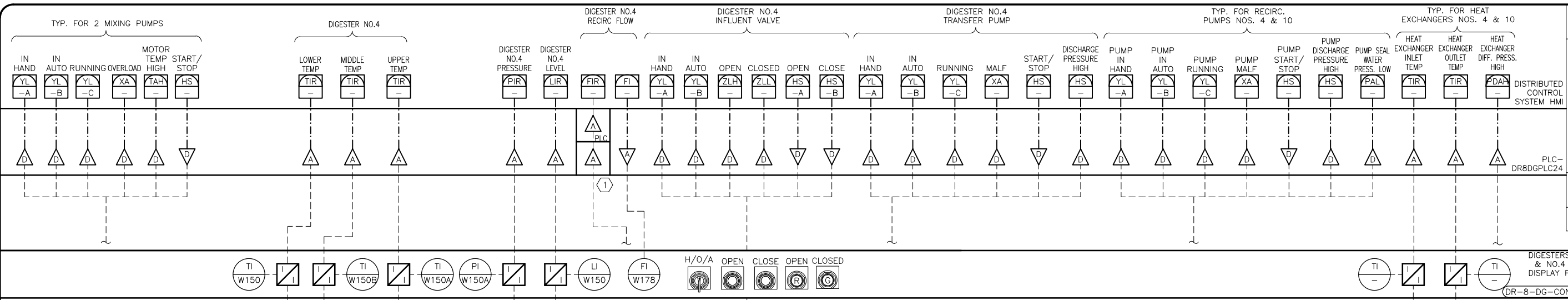
Dwg. No.
031303



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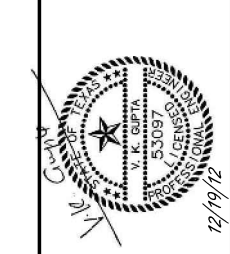


- NOTES:**
- ① 4-20MA FLOW SIGNAL IS WIRED THROUGH HART MUX.
 - ② ALL INSTRUMENTS ARE NEW UNLESS OTHERWISE STATED. REMOVE EXISTING INSTRUMENT AND INSTALL NEW INSTRUMENT IN SAME LOCATION. THE CONTRACTOR SHALL MAKE MODIFICATIONS REQUIRED FOR INSTALLATION OF THE NEW EQUIPMENT.
 - ③ EXISTING INSTRUMENTS SHALL REMAIN. CONTRACTOR SHALL RECALIBRATE EXISTING INSTRUMENTS.



GBL	App.	HDR Job No. 174076
ADDENDUM NO. 6	Revisions	
12-16-2012	Date	
A	No.	

Date: OCTOBER 2012
 Designed by: W.N.
 Drawn by: J.C.
 Checked by: V.K.G.
 Scale:



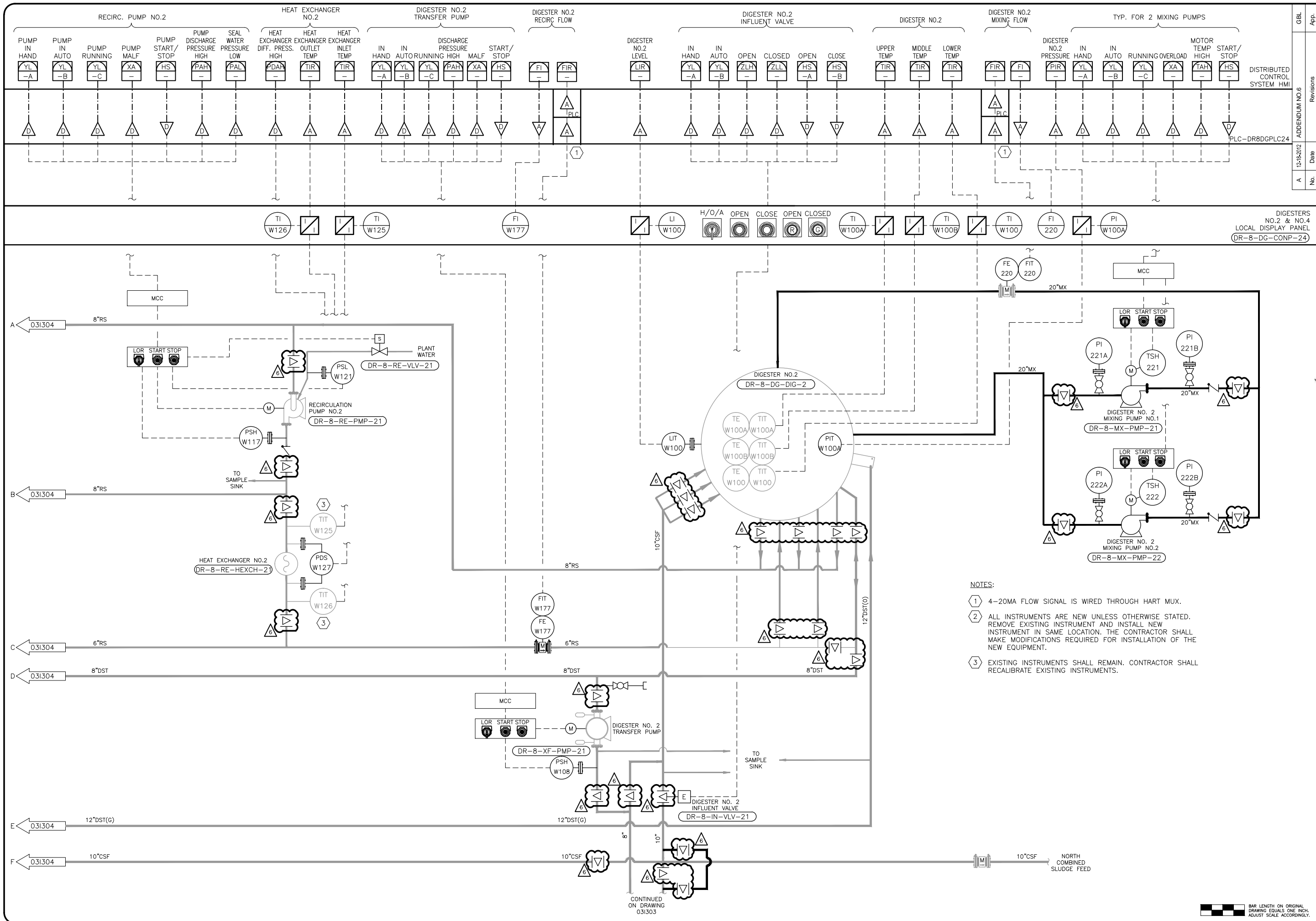
SAN ANTONIO WATER SYSTEM

**SAWS Job No. 11-6502
 DRWRC - DIGESTER MIXING AND SYSTEM ENHANCEMENTS, PHASE II
 DIGESTER NO. 4 P&ID**

Dwg. No.
 031304

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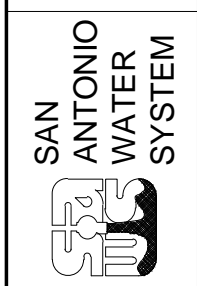
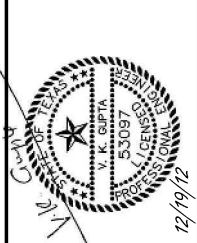
- NOTES:
- ① 4-20MA FLOW SIGNAL IS WIRED THROUGH HART MUX.
 - ② ALL INSTRUMENTS ARE NEW UNLESS OTHERWISE STATED. REMOVE EXISTING INSTRUMENT AND INSTALL NEW INSTRUMENT IN SAME LOCATION. THE CONTRACTOR SHALL MAKE MODIFICATIONS REQUIRED FOR INSTALLATION OF THE NEW EQUIPMENT.
 - ③ EXISTING INSTRUMENTS SHALL REMAIN. CONTRACTOR SHALL RECALIBRATE EXISTING INSTRUMENTS.

GBL	App.	HDR Job No. 174076
ADDENDUM NO. 6	Revisions	
12-16-2012	Date	
A	No.	

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consulting engineering
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email: info@gundainc.com

HDR
HDR Engineering, Inc.
TEXAS FIRM NO. F-754

Date: OCTOBER 2012
Designed by: W.N.
Drawn by: J.C.
Checked by: V.K.G.
Scale:



SAWS Job No. 11-6502
DRWRC - DIGESTER MIXING AND SYSTEM ENHANCEMENTS, PHASE II
DIGESTER NO. 2 P&ID

Dwg. No.
031305



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